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### PROVED STANDARDS IN MEDICINE AND SURGERY

"There is a much greater need for orthodoxy in surgery than in politics or religion, for the subjects of State or church share with others disabilities or dangers not usually very immediate, whereas a sick man bears an anxiety and responsibility and incurs a danger which is not shared and cannot be put off. He has his back to the wall.

"Put yourselves in the place of such a man and suppose that there is no established doctrine of medicine or orthodoxy. One friend tells him to go to so-and-so, another to someone else, and he has no better reason than opinion to choose one rather than the other; nothing better than opinion, because nothing better exists. To him and his friends surgery and medicine are mysteries deeper than Hebrew or English law. It would take him years to acquire sufficient knowledge to judge in his own case; and notice, also, that (always supposing there is no orthodoxy, no established machinery of tests, education, degrees) such a man would not even know where to go in order to give himself the necessary education. He must risk being swindled by teachers almost as ignorant as himself, or by prejudiced pedants a century behind the times."

—W. HENEAGE OGILVIE, M.D., in the *Lancet*.

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A tentative program of the courses for graduates to be held in Detroit under the Department of Post-graduate Medicine and the Michigan State Medical Society will be found on page 462.

a long time, and if there is evidence of hemorrhage, perforation, or obstruction, surgical treatment should be carried out without delay.

In any case in which operation is required, the surgical treatment should be conservative, as it has been shown that satisfactory results are obtained by this method. In a recent paper I reported results with the conservative operation for duodenal ulcer. This operation consists in removal of the ulcer, and of the cap of the duodenum, together with all of the pyloric sphincter muscle that can be readily excised. This local operation is not applicable in all cases; it must be confined to those in which the upper part of the duodenum is accessible. It can be carried out satisfactorily in about 50 per cent of all cases of duodenal ulcer.

The local operation has not gained in popularity, largely because gastro-enterostomy has been satisfactory in most cases, and furthermore because the procedure is difficult in cases in which the duodenum is fixed. Gastro-enterostomy should be avoided in any case in which the facts would indicate that gastrojejunal ulcer is likely to occur. Although it is not possible to estimate accurately beforehand whether a secondary ulcer is going to develop after gastro-enterostomy, nevertheless, there are certain cases in which it is reasonably certain that gastro-enterostomy will be satisfactory. There are others in which susceptibility to gastrojejunal ulcer will be more likely to be present. I believe that this difference is largely an accompaniment of the age of the patient, and of the duration of the symptoms. Older persons, who have had a long history of trouble, and who have had considerable deformity of the duodenum for a long time, are almost certain to obtain complete and permanent relief from gastro-enterostomy. On the other hand, younger persons, who have a short history, and who are found to have a small ulcer or ulcers, which produce only slight change in the contour of the duodenum, are much more likely to be afflicted by development of an ulcer in the stomach following gastro-enterostomy; on this account, when it is necessary to operate on such patients, gastro-enterostomy should be avoided if possible.

The immediate mortality of the local operation, in my experience, is lower than that in any other group of cases in which opera-

tion is performed on the stomach or duodenum. The immediate mortality following operation for gastric or duodenal ulcer is due either to pulmonary complications or to peritonitis. I believe we have been able to show that pulmonary complications are less common in local operation for duodenal ulcer than in gastric operations in general. Bronchopneumonia was the cause of death in one case. In several other cases, pneumonia, pleurisy or bronchitis occurred, and there were three cases of pulmonary infarct, but none of these was fatal.

My colleagues and I have done some type of local operation for duodenal ulcer in 1,002 cases, and we have excised the cap of the duodenum with the ulcer and pyloric sphincter in 464 of these. In the 1,002 cases, there were only two deaths in hospital.

Infection has not been the cause of a death, and in only one case is there any reason to feel that there was leakage from the suture line. In this case, infection was evident soon after the operation, and in a short time a subphrenic abscess formed. Although convalescence was prolonged, the patient eventually recovered. Duodenal fistula did not exist at any time. The explanation of the low percentage of cases in which infection took place would seem to be that soiling from this part of the gastro-intestinal tract does not so often result in infection. All of the local operations are performed without clamps, and in each case there is certain to be soiling from the fluids of the stomach as well as from those of the duodenum. If these fluids carried virulent organisms, most certainly the incidence of infection would be much higher. In view of the fact that pulmonary complications have occurred less frequently than in gastric operations in general, and that so few severe infections have developed, the results of this local operation have been gratifying.

In order to obtain good results from the local operation, it is necessary to remove more than the duodenal ulcer. The first local operation for duodenal ulcer to be performed in the clinic was done in 1896, and the first excision of a duodenal ulcer, in 1902. From that time on, for a number of years, very few of these operations were performed. This was largely due to the fact that gastro-enterostomy was uniformly satisfactory. The immediate result of gastro-enterostomy probably is a little more nearly

complete relief from dyspepsia than that obtained by the local operation. A study of the ultimate results shows that gastro-enterostomy was satisfactory in more than 90 per cent of the cases. The local operation, excision of the ulcer, gives practically the same percentage of ultimate satisfactory results. The ultimate results depend largely on the character of the original complaint. If the history of ulcer is definite and clear cut the results are certain to be good, whereas if the original history is confused by other complaints, then the patient probably will not be free from symptoms after any operation for ulcer. Of 464 cases in which the complete local operation was performed, a typical syndrome of ulcer was present in 402 and in these cases the result was uniformly satisfactory.

Study of the physiology of the stomach, after a local operation with excision of the sphincter muscle has been performed, shows that about the same change has been brought about as would result from gastro-enterostomy. The stomach empties quickly, the concentration of gastric acids is reduced but the acids are rarely absent, as sometimes occurs following gastro-enterostomy. Alvarez has studied many of these cases from the physiologic standpoint and has demonstrated these facts. He has further shown that in spite of the fact that a great part of the sphincter muscle is removed, together with some of the musculature of the lower end of the stomach, nevertheless the contents of the stomach pass into the duodenum under slight sphincteric control. It is likely, however, in most instances, not only that the stomach empties quickly, but that in many cases there is regurgitation of the duodenal contents into the stomach resulting in neutralization of the gastric acids. Increasing experience with this operation, and comparison of the ultimate results of the cases in which operation has been performed recently with those in which it has been performed earlier, seem to show that wide excision of the sphincter and musculature at the pyloric end of the stomach is necessary in order to obtain the most satisfactory results.

Because of the fact that a bleeding ulcer may continue to bleed after gastro-enterostomy, the local operation is definitely indicated in all cases in which there is a history of bleeding. However, some bleeding may

occur after the local operation. In some of the cases there was only one hemorrhage; in others there were several. Due to the fact that in most of the cases in which bleeding occurred following excision of the ulcer, and to the fact that the bleeding was not severe and subsided completely, one is inclined to think that in most instances the lesion probably was an associated inflammation in the duodenum. The results would seem to indicate that unless the hemorrhages occur frequently, further operation is not required. In one of the cases, bleeding did continue, and it was finally discovered that the patient had hemorrhagic purpura. Bleeding ceased immediately after removal of the spleen. In one other case, because of recurrent hemorrhages, operation was repeated, and gastro-enterostomy was performed. A recurring ulcer could not be demonstrated.

Multiple ulcers occur frequently. Most often, the lesions found are an ulcer, or duodenitis, on the anterior surface, in the cap of the duodenum, close to the upper border, and associated with this is an area of duodenitis on the posterior wall of the duodenum just below the pyloric sphincter. These conditions can be demonstrated just as soon as the duodenum is opened. In other cases there will be a crater-type of ulcer on both the anterior and posterior surfaces, and in performing a local operation both of these lesions should be excised. However, in the event that the posterior lesion is duodenitis, it is not necessary to treat it. In certain cases the anterior lesion may be a small ulcer, or an area of duodenitis, but as soon as the duodenum is opened a large, crater-type of ulcer may be found on the posterior surface of the duodenum, in some instances at a considerable distance below the pyloric sphincter. These posterior ulcers have been excised when possible. Although the results from these procedures are better than would be expected, that is, satisfactory results have been secured in about 70 per cent of cases, nevertheless, when a large posterior ulcer is encountered, it might be best to excise the anterior lesion and then complete the operation as a posterior gastro-enterostomy.

Study of the immediate mortality and the ultimate results of local operations for duodenal ulcer seems to justify the conclusion that this operation has a very definite place in the surgical treatment of duodenal ulcer.

When the ulcer is on the lesser curvature of the stomach it should be excised, if this can be done without causing too much gastric deformity. This procedure should always be accompanied by gastro-enterostomy, since excision of a portion of the lesser curvature possibly can interfere with gastric motility. In the event that the ulcer is large, and near the pylorus, the stomach should be partially resected. Frequently, midgastric resection is suitable if the ulcer is situated above the middle of the stomach.

I cannot agree with those who believe that extensive gastric resection should be carried out in all cases of gastric ulcer. The conservative operations which my colleagues and I have performed in these cases have given satisfactory immediate results, and the ultimate results have been better than those obtained by almost any other operation for gastric lesions. For some unexplainable reason, jejunal ulcer practically never occurs when gastro-enterostomy is performed in these cases of gastric ulcer.

In the treatment of gastric ulcer, the possibility of malignancy enters into consideration. Although it is usually possible to distinguish between benign and malignant ulcers, still it is often difficult to feel certain that one has done so. For this reason alone, gastric ulcers should always be excised. In this connection, however, it is interesting to note the recent report of 100 cases studied by Balfour, in which gastro-enterostomy only was done for gastric ulcer. In view of the fact that it has been the policy at the clinic to remove gastric ulcers whenever it has been possible to do so, this means that gastro-enterostomy was carried out in those cases in which removal would have been difficult and hazardous, and in many of the cases the lesion was considered irremovable. Many of these patients were completely relieved of their symptoms. In the 100 cases, the gastro-enterostomy had been done ten or more years previous to the time the study was made. The operative mortality in this series of 100 cases of inaccessible gastric ulcer was 3 per cent. In 24 per cent, gross hemorrhage had been reported, and in 63 per cent some degree of obstruction had been present, in spite of the fact that neither the lesion nor the induration about it in-

volved the pylorus. Seventy-nine per cent of the patients, five years or more after operation, were relieved. In 17 per cent the result was poor.

This experience seems to show that gastro-enterostomy affords the most complete protection against perforation and obstruction. The possibility of carcinoma developing in the unremoved lesions is most important. In six of these 100 cases such a sequel was established or suspected. Although this is a small proportion of the cases, nevertheless it does establish the fact that gastric ulcer should be removed when it is possible to do so satisfactorily. Balfour feels that the outstanding fact in this study of 100 cases of gastric ulcer, in which gastro-enterostomy alone was performed, is that an indirect operation alone can be depended on to give a high percentage of good results in cases of gastric ulcer in which removal of the lesion by any method is difficult, and in which partial gastrectomy is associated with prohibitive operative risk and unwarranted sacrifice of the stomach.

#### SUMMARY

In this paper I have given a report of experience at the clinic with conservative surgical treatment for duodenal and gastric ulcer. In many cases the radical procedure of resection of a considerable part of the stomach has been done. In these cases it was felt that there was a special indication for radical resection. The results of resection of the stomach give a higher mortality with no better ultimate results. Secondary ulcers form in or near the stoma following resection for ulcer in about the same proportion of cases as that in which they form following gastro-enterostomy. If there is any question as to the nature of the gastric lesion, resection should be carried out. Or, if the gastric ulcer is a large perforating lesion, then resection frequently can be carried out with less operating than is required in performing excision and gastro-enterostomy.

In conclusion, it must be said that the results of conservative operations are satisfactory and that radical operation should be done only in those cases in which there is some special indication for doing so.

## BEHAVIOR DISORDERS IN CHILDHOOD AND THEIR RELATION TO THE PEDIATRICIAN\*

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DETROIT

Studies in the comparative anatomy of the central nervous system have demonstrated an evolutionary process extending from the lowest forms of the animal kingdom, as exemplified by the spinal cord reflex animal, the *Amphioxus*, through complex gradations, to reach the most complicated form of all, the *Homo sapiens*. Paralleling these anatomic alterations, there has been an analogous change and development in neural activities and functions. These lower forms of animal life transferred the environmental stimuli directly through the affector or receptive neurone to the effector pathway, to produce a response. Thus, the organism was enabled to withdraw from an unfavorable environment in which the thermal condition might be unsatisfactory. Food was ingested by enveloping the morsel at the receptor of the gastro-intestinal tract, when the particle came into contact with the organism. This instinct of self-preservation is common to all forms of animal life. Similarly, the reproductive instinct, or the drive for species or race preservation, finds beginning. As the central nervous system evolved, more complex activities developed. Further neurone anastomoses, ascending association paths, the formation of mid-brain structures which began to exert their vegetative functions—all increased the number and complexity of response. Finally, with the invaginations and the outpouching of the primitive neural tube, the fore-brain originated, carrying the higher cortical activities—memory, apperceptive qualities, discrimination, judgment, etc. The primitive instincts of race and self-preservation still exist in this phylogenetic process but are curtailed and repressed by our civilization. As a result, many of these fundamental, basic urges find inadequate and socially unacceptable expression. Many are relegated to the "storehouse of forgotten memories," or the so-called unconscious, in which these conflicts withdraw energy, to break forth later in some physiological or functional aberration. The neuroses, so common to all branches of medicine, result from this conflict between the deeper instinctive urges and strivings of the individual and their incomplete, dissatisfying expression. Every stimulus leaves its impression accompanied

by its resulting response. If repeated sufficiently the reflex arc becomes firmly ingrained and an automatic movement or habit pattern becomes established.

This evolutionary process evidences itself in the social order, going from the primitive customs and tribal life of the savages up to the present time. Primitive savage life, although it was elementary and essentially individualistic, still had its restrictions and taboos. Certain acts were recognized as being anti-social and as menacing to the group. Any object that touched the tabooed object was itself rejected. This was largely due to the fact that each individual unconsciously had similar instinctive desires, which the group had learned to harshly repress in order to protect each member from himself. The evolution of the nervous system and a study of primitive tribal customs and practices have revealed similar trends and goals in modern life. The difference rests in the greater restrictions of civilization, with the attendant customs, conventions, and inhibitions. The higher the cortical development, the greater the self-inhibitory tendencies. The deteriorated, psychotic individual who regresses to an infantile or animal state has lost his cortical inhibitions and the basal and lower reflex centers operate reflexly just as in the lower forms of animal life. Alcohol, which paralyzes the higher centers and reduces cortical inhibitions, acts similarly.

The human embryo recapitulates the physical history of the animal species as evidenced by the gill clefts, the cloaca, etc. The inner life of the child, when born into the world, carries with it, as well, the archaic patterns and instincts of the animal kingdom and that of his own species—his racial heritage. The newborn manifests his sucking instincts first, to satisfy hunger; he

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avoids painful stimuli, and responds to pleasurable sensations. Children are akin to the primitives who believed in gods, demons, and magic. Their phantasy power, their credulity, their ready acceptance of mythological beings, are image reflections coming up from those deeper levels of the primitive past. The imaginary conversations and day dreams furnish the material out of which they can compensate for failures. They also furnish a haven for retreat when reality becomes too difficult. Undesirable associates, sensitivities about bodily defects, unfavorable rivalry, can all be eliminated by this flight from reality. Fears, hates, rebellion, all find outlet here. It is in these early years of life that habit patterns, attitudes, ideals, and attributes of personality are ingrained. The child is self-centered and is essentially an anti-social being who attempts to dominate his environment to gain attention. He often is in a position of hatred to the world about him. This hate may manifest itself as obstinacy when it cannot be expressed. He may react with stubbornness if his pleasures are disturbed. This stubbornness may be hidden by an excessive docility. Defiance of authority and active, retaliative measures are set up when the environment does not let him express his inherent desires in a socially acceptable manner.

It is futile to attempt to clearly demarcate a range of normalcy for child behavior. Granting that there is no badly tainted ancestry and the environment is reasonably satisfactory, what common characteristics exist? Activity of the motor system, a complete freedom of movement, is imperative to establish organic connections in the nervous system. Imitation is another trait which can obviously be ascribed as "normal." Suggestibility, a subtle form of imitation, is considered characteristic in children. When an extreme absence of suggestibility exists so that there is complete resistance or negativism to the environment, there is present a cardinal sign of a grave mental disorder. This is especially true when a complete absence of suggestibility is found in adults. Too great a degree of vacillation, or suggestibility, is on the other hand obviously pathological. Attributes of an integrated childhood include curiosity, love of approbation, play activity and a richness of the phantasy life. Organic ad-

justments are necessary as well in terms of bladder and bowel control, feeding and sleep habits, etc.

Child research has brought out interesting phenomena of behavior. It is well to consider the wide variation between infants' development in order to avoid forcing children when they fail to come up to preconceived standards. On the other hand organized inquiry has failed to clarify the problem of normal mental growth, so that often too little is expected of children. According to Gesell, it is feasible to provide an uncomplicated, free environment where the child may have ample opportunity to obtain what his developing impulses prescribe. There are differences in the quality as well as quantity of children's achievements. Individual differences should be recognized and the common discrepancy between the mental and physical development of the child should be taken into consideration. An opinion as to the mental age of the child which is based on observation of size, age, or appearance is untenable, as well as often being definitely injurious. Steadiness of effort, evenness of disposition, sound judgment, and well expressed emotions ultimately yield greater success than inherent intelligence. Since much of the infant's early development has to do with bodily control, which is taken for granted, the psychic activity that develops is disregarded or not understood.

Parents often try to compensate for their own earlier educational deprivations by forcing their children into scholastic activities in which the latter may have special psychological disabilities, so that resulting conflicts arise in the child-parent relationship. Again, there are parents who attempt to develop their children in activities in which they themselves excel, not realizing that the child may have other interests offering him greater personal satisfaction. It is from the early relationship with parents and members of his immediate environment, that the child's inner life takes direction widely shaped by his own innate tendencies.

The pattern of early home life is carried into adulthood and the emotional tie with the family determines later mature reactions. "The fabrics are woven by the parental attitude." Many problems of a child's maladjustment which affect his physical well-be-

ing, can only be treated through an understanding of the emotional difficulties of the parents. In the stress of a busy practice the pediatrician often can only take the time to examine the child and leave recommendations to be carried out. Sometimes this is done without determining how far the symptoms of the child have originated in some dissatisfying, emotional relationship with the offending parent. It is notoriously true that many cases seen by the practitioner are on a psychogenic basis without any demonstrable organic origin. With repeated dysfunction many conditions become secondarily pathologic from the organic standpoint. The relation of hyperthyroidism or gastric hyperacidity to the emotions is common observation.

Preventive medicine has been stressed in the past few decades. Such problems as housing conditions, proper diet, rest, fresh air, sunshine, etc., have been emphasized. One may liken an understanding or diagnosis, if you will, of the emotional relationship of the child with his immediate environment, to the isolation of an organism of an obscure, infectious disease, in which as effort is being made to establish the techniques of prevention.

It is because of the belief that the study of the emotional life of the child sheds light on the prophylactic aspects of adult mental disorder, that much impetus has been given to the so-called "child guidance movement" in the past decade. This term is somewhat of a misnomer, as the parent in the majority of the cases is the primary factor to be considered. These child guidance clinics began in 1921 on an experimental basis in connection with the juvenile court system. The first maladjusted child to be studied in any organized way was the delinquent, whose social relationships had brought him into conflict with the law. Frankwood E. Williams states that "from a comparatively simple type of organization connected with the juvenile court, the clinic has become a highly organized coöperative community enterprise with extensive ramifications in all parts of the community that have to do with child life." The Commonwealth Fund has established several clinics in the larger cities and after a satisfactory demonstrative period the communities have taken over these clinics. The integration of four fields, the sociologic, the psychologic, the physical, and

the psychiatric, offers the nucleus for this child guidance study.

The bases for behavior disorders in childhood are found on occasion in organic causes, a sphere in which the pediatrician can make invaluable contributions. These problems can be classified from the organic point of view, for purposes of simplification, according to the actual disease present, the resulting deformity, and the physiological imbalance produced. Conversely, gross organic pathology may cause inner psychic difficulties. A child with a physical defect may become sensitive and excessively shy on account of his deformity, and as a result he tends to withdraw into himself. A child may be forced to remain in a constant state of immaturity by an overly solicitous mother. The parent may have been conditioned by an earlier grave illness of the child into a morbid state of anxiety about the child's bodily health. This type of mother offers difficulty in carrying out an objective, rational regime of treatment because of her abnormal fear. A simple physiological complaint often looms forth as a portentous illness to such a mother. Children with low grade focal infections are occasionally restless and their threshold for self control becomes lessened. Chronic nasal obstruction, long standing infectious diseases, intestinal parasites, deficiency disorders—all contribute to a child's apparent indolence and dulness. There has been increasing emphasis to determine the possibility of an early encephalitic process existing in certain cases of behavior disorder, following acute infectious diseases. In encephalitis, in addition to the sleep disturbance, visual disorder, and continued pyrexia, frequently there are changes in the emotional spheres, appearing permanently as sequelæ. Children become unstable, pugnacious, and irritable, as a result. How much this change in personality is a result of the actual cerebral pathology, or of the mismanagement and overindulgence of the child by worried parents during the chronicity of illness, cannot actually be determined. Some children with chronic encephalitis have definitely realized that they can use physical illness as a subterfuge to domineer the family and to satisfy every whim.

Certain physical conditions produce many more or less characteristic mental attitudes. Patients with pulmonary tuberculosis often feel excessively optimistic, especially when they may present a false picture of health and be without pain or great discomfort. Epileptics show egocentricity and personality changes. Children with defective hearing occasionally have ideas of reference. They assume that people are talking about them because they do not understand what is being said. There is a subtle type of deafness for special tones only. These are known as "islands of deafness," and are diagnosed with the aid of an audiometer. Certain sounds are not heard through ordinary clinical tests. Visual defects likewise are etiological factors in causing maladjustment.

Chronic or reflex irritations contribute to the somatic basis of behavior disorders. Phimosis, itching around the rectum, tight clothing, etc., participate in causing restlessness and hyperactivity. Often cerebral birth trauma is responsible for clumsiness and slowness of movement in a child, which may result in sensitivity and cause truancy from school because he cannot compete with other members of his class. Endocrine disorders have been given some emphasis as etiologic factors in producing inner psychic difficulties. In a relatively few cases mental torpor can be ascribed clearly to a condition of hypothyroidism. There have been rare, isolated cases of stealing to satisfy an excessive desire for sweets on the basis of a pituitary neoplasm. In the Froelich syndrome, the absence of the secondary sex characteristics and the establishment of those of the opposite sex has occasionally resulted in the formation of sex anomalies, such as homosexuality. A persistently low blood calcium has been described in the literature in many cases of hyperactivity.

Through the work of Dr. David M. Levy of the Institute for Child Guidance, a method of integrating physical and psychiatric examinations has been devised. This is work of practical significance to pediatricians, as well as to psychiatrists, to utilize a means of gaining rapport and of acquiring the confidence and cooperation of the patient. With the technic of the physical-psychiatric examination, the pediatrician can offer a more sympathetic understanding and obtain a deeper insight into his patient. Dr.

Levy concludes that, "by taking advantage of rapport established in the physical examination of children, an interview can be developed to follow that procedure, which incorporates phases of the psychiatric study dealing with the child's verbal response to his own body; in terms of anatomic variations; height, weight, strength and appearance; body growth and maturity; and finally knowledge of sex difference, and sex activity." However, relatively few cases of behavior disorder can clearly be demonstrable on a physical basis alone.

The second approach to mental hygiene is through the field of psychology. This point of view sheds light on the intelligence, special capabilities, and disabilities, educational achievement and vocational trainability of the child. As a result of the work of Dr. Orton, increased attention has been brought to the phenomenon of left-handedness. The handed side is lateralized to the opposite half of the cortex. With efforts to make the child right-handed, emotional conflicts may result in attempting to overcome a naturally endowed faculty of writing. Often these children with an innate left-handedness become "mirror writers," and rate lower in educational achievement because of emotional blocking when they are forced to use their right hands. Certain of the speech defects similarly show a relationship to the question of handedness. The speech center in right-handed individuals is in the so-called Broca's area, confined to the posterior part of the second left frontal convolution. Occasionally a child stammers when forced to become right-handed because it is assumed that the speech center must lateralize to the cortex of the handed side. The psychological approach, so briefly described, is a second phase of the complete study of the child.

A thorough social examination or history is necessary as an integral part of the "total investigation." This phase delineates the point of view of others regarding the patient, as well as defining their emotional attitudes toward him. The patient's experiences are described even though he is unaware of their significance. One of the most important elements of early normal development is a sense of security in the child's social and feeling relationships. It is because of this lack of security that the "broken home" is one of the most signifi-

cant causative factors producing later emotional instability. Such social pathology as gross neglect by parents, exposure of the child to crime and sex trauma, poverty, alcoholism, parental discord, illegitimacy, frequent changes in habitat, etc., are all noted in the history to determine their relationship with the problem. The most severe cases of sociologic pathology offer the most obvious treatment plan. It is in those cases where the environmental factors are less significant that the approach is fraught with more difficulty. It is quite impossible at times to differentiate between a dull child, who is repressed by his environment, and an early schizophrenia case, who might be inaccessible. Such disorders of childhood as habit spasms, compulsions, nail-biting, bed-wetting, night terrors, temper tantrums, masturbation, etc., challenge the pediatrician who is willing to take the time to probe into the child's social relationships. Often casual inquiry will reveal much significant material.

However, it is in the psychiatric sphere, in which the child's point of view is obtained, that most of the difficulty is encountered. Formerly psychiatry was concerned with the diagnosis and treatment of psychotic individuals already far advanced in the disease process. Such cases often involved institutionalization over long periods. For centuries the insane individual was reviled and thought to be possessed of the devil; again, he was deified and given the homage of a saint or prophet. Out of this chaos and ignorance public sentiment learned to fear and to shun evidences of insanity. It was with a great deal of abhorrence and anxiety that individuals came for advice regarding manifestations of psychosis in their families. This was due to public sentiment regarding hereditary taint and the fear of institutionalization. For this reason psychiatrists were consulted very late in the course of the mental disorder when therapeutic measures were most difficult and sometimes futile in their efforts. However, with the increasing interest in the mental hygiene movement, some of these attitudes happily have changed. In spite of the progress made, we are still in an uncharted sea as to the best techniques to be applied to the problems dealing with individuals. It is important, then, to make frequent soundings in this sea to evaluate our methods.

Among some of the concepts which prove of value in understanding the child is the lead suggested by Pavlov regarding the conditioned-reflex. A pleasurable experience can be made distasteful to a child by arbitrarily presenting the satisfying object with one which inspires fear. Again, certain types of problems have been interpreted at times on the basis of the Adlerian concept. This theory explains behavior on the basis of inferiority feelings, and a compensatory expression of power as the directing force in conduct.

A child's initial emotional feelings are directed toward those individuals with whom he is first in contact, namely his parents. A mother may overload her child with affection to compensate for her own earlier deprivation in love interest. As a result the child is not emancipated from her and becomes excessively dependent and blocked in future feeling adjustments. Such a child may labor under a false sense of gratitude to this apparently self-sacrificing parent. This is one of the many intricate, complex possibilities which can only be understood in the light of a detailed study. That sex maladjustment plays an important role in producing emotional difficulties can scarcely be denied. Guilt feelings can sometimes be relieved by releasing the tension through discussion and understanding. Unhappy memories appear as distortions, disturbing the child and upsetting his physiological balance. Conflicting emotions can be understood and finally banished by "re-living" earlier disturbing situations with the psychiatrist—visualizing them and readjusting accordingly. These early, deeply lying conflicts carry a charge of energy demanding release and may be sublimated into a socially acceptable outlet. When repressed they have the power to influence conscious behavior. One of the most difficult parental attitudes to deal with is a fundamental rejection of the child who has been unwanted. The mechanisms of conduct and their ramifications are so numerous that few can be described in detail or even mentioned in a brief time. A dynamic point of view of the patient's life, seen longitudinally as a constantly moving stream, gives the proper perspective. The field of mental hygiene attempts to bring an individual to a degree of maturity so that he can take on the responsibilities of life, without

regressive tendencies, so that he is able to face reality squarely without using any physical symptoms or nervous breakdowns as subterfuges to excuse his failures. The philosophy of mental hygiene is based on the theory that a study of the problems of children offers the best means of prevention of later psychic difficulties. Virchow has aptly written, "Treat not only the disease, treat also the patient."

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## THE PHYSICAL AND ECONOMICAL ADVANTAGES OF GYNOPLASTIC REPAIRS FOR OLD LACERATIONS, AT OR SHORTLY AFTER CHILDBIRTH\*

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In some of my previous articles,<sup>1</sup> the indications, contraindications, technic, and complications of gynoplastic repairs have been described in detail, so I will limit myself to the discussion of the physical and economical advantages of repairing old and new lacerations of the genitalia immediately or within a few days after delivery.

Childbirth leaves its scar in at least 90 per cent of the cases. There may be only a slight nick in the cervix, a mere prolapse of the cervical mucosa, a tendency to cystocele or urethrocele, a tear or relaxation of the perineum or a tendency to displacement or prolapse of the uterus. But what is the result in a few weeks, months, or years? How many women go through life as semi-invalids, unable to attend satisfactorily to their marital and domestic obligations, become neurasthenics or hypochondriacs, suffer various ailments and disabilities due to the above conditions, which generally become worse, especially after subsequent deliveries?

Dorothy Dunbar Bromly, in an article in Harper's Magazine, June, 1929, which she appropriately entitles "What Risk Motherhood," places a grave charge against the medical profession for the alarming maternal mortality and morbidity, and quotes many leading authorities such as Polak, Williams, DeLee and others. Coming from the lay pen, it behooves us to give this care-

ful consideration. Much can be done to raise obstetrics to a higher standard. If we give the patient the proper prenatal care during pregnancy, allay the pains of childbirth, and send her home from the hospital in the best possible physical condition, with the smallest amount of additional risk, only then can we feel that obstetrics will earn the place it deserves in the eyes of the community.

When I first began the repair of old as well as new lacerations at the time of confinement about fifteen years ago, numerous arguments were proposed against this procedure. First: the *danger of infection*. Concerning this point, it is important to mention that there are several factors that enter into the ideal performance of gynoplastic repairs, namely, that the obstetrician be thoroughly trained in gynecology and in surgical technic, and that the patient be delivered in a well-regulated hospital, suitably equipped, and with sufficient assistants,

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anesthetists, etc. It is a regrettable and deplorable fact that only 10 per cent of our American women are delivered in hospitals. It would be unwise, even impossible, to perform these repairs under any other conditions.

Second: *the edema*. Time and experience have disproven the contention that it is im-

possible to recognize the tissues at this time because of the edema. In fact, we find that the anatomical parts are more easily separated into their various layers than in the usual gynecological operation.

Third: *lochia*. In the absence of a definite infection, the lochia does not interfere with the healing of the tissues.

CHART 1. TIME OF REPAIR OF OLD LACERATIONS  
(from January, 1922, to July, 1929)

Immediately	Next Day	3rd Day	4th Day	5th Day	6th Day	7th Day	8th Day	9th Day	10th Day	11th Day	14th Day
1044 or 82.5%	11	39	52	51	23	24	11	3	5	3	1
Total.....											1267 Cases

CHART 2. AGE  
(from January, 1922, to July, 1929)

Age	18	19 to 24	25 to 28	29 to 32	33 to 37	38 to 47
No. of cases	1	151	309	384	296	126
Total.....						1267 Cases

CHART 3. PARITY  
(from January, 1922, to July, 1929)

ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv
479	355	192	89	68	29	17	15	11	6	3	2	1
Total.....												1267 Cases

CHART 4.

Name	Para	Date 1st Ex.	Delivery	Repair	Subsequent Examination	Remarks	Subsequent Deliveries	Later Examination
M. H.	II	2/10/21 Rel. + + + C. + + R. + + + Lac. Ce.	6/23/21 Knee present.  13 Lb. Babe	T. C. P.	3 mo. — — — well healed		4/18/24 L. F. P. H.	18 mos. later in good condition
J. K.	IV	10/2/20 Rel. + + C. + R. + + Lac. Ce.	11/1/20  normal	T. C. P.	5 weeks ± — ± good cond.	Aet. 44 yrs.	9/15/23 Normal delivery. Primary repair of Perineum & Hemorrhoidectomy	5 mos. later genitalia in good condition
R. L.	VII	4/21/19 Rel. + + R. + + Lac. Ce.	6/10/19  normal	T. P.	5 years — — good cond.	Aet. 42 yrs.	3/10/24 Normal delivery. Primary rep'r of Perineum	3 mos. later genitalia in good condition

Fourth: *the danger of prolonged anesthesia, hemorrhage and shock.* If the patient is not in good physical condition after delivery, it is advisable to wait 24 or more hours before attempting repair work. This was our original method, but with improved technic and experience, we are able to do over 80 per cent immediately.

Fifth: *interference with future deliveries.* If the patient is not operated until the end of the child-bearing period, as some physicians advise, then irreparable damage is done. Chart 2 shows that women between the ages of 18 and 47 were in need of repairs, and Chart 3 shows the parity of these cases, proving that it is difficult to estimate the probable duration of the child-bearing period. Every day more physicians are realizing that it is no longer necessary or advisable to wait till this is over.

Chart 4 reports in detail three of a long series of operated cases in which the patients returned for a subsequent delivery.

Chart 5 shows the number of cases operated for old lacerations immediately or within a few days after delivery at the Mt. Sinai Hospital, Cleveland, from January, 1922, to July, 1929.

CHART 5. NUMBER OF CASES

Years	Cases
1922 to 1927 (5 years).....	872
1927.....	156
1928.....	171
1929 (6 months).....	68
Total from 1922 to 1929.....	1267
Prior to 1922.....	147
Total.....	1414

Chart 6 shows the obstetrical activity during 1926.

CHART 6

Total admissions in 1926.....	886
Primiparas .....	373
Cesarean sections; obstetric complications, as eclampsia, heart or kidney disease; multiparas that did not need repairs or refused to have them done, etc., or had them done at previous deliveries.....	340
Total .....	713
Multiparas repaired.....	173
i.e., 19.5 per cent of total admissions in 1926 were repaired, or 33 per cent exclusive of the primiparas.	

Chart 7 reports the types of deliveries which were followed by gynoplastic repairs

CHART 7. TYPES OF DELIVERIES FOLLOWED BY GYNOPLASTIC REPAIRS  
(from January, 1922, to July, 1929)

Pr.	Sp.	L.F.	M.F.	V.E.	Br.	Dil.C. L.F.	Mac.F. L.F.	Sc. M.F.	Dil.C. M.F.	Bag Br.	Dil.C. V.E.	Twins
17	678	356	67	75	21	8	1	18	6	2	17	1
Total.....												1267 Cases

Pr.: Precipitate. Sp.: Spontaneous. L.F.: Low Forceps. M.F.: Mid Forceps. V.E.: Version and Extraction. Br.: Breech. Dil.C.: Manual Dilatation of Cervix. Mac.F.: Macerated Fetus (afebrile). Sc.: Scanzonian maneuver.

CHART 8. TYPES OF OPERATIONS  
(from January, 1922, to July, 1929)

CHART 8. TYPES OF OPERATIONS (from January, 1922, to July, 1929)											
C	T	TP	TC	PH	TCP	TPH	CPH	TCPH	Amp.CP	Caut. Cerv. CP	P 3rd°   Vag.F.
6	123	443	7	32	84	43	13	24	2	2	2   2
P	H	CP	Ac	TH	TPU	TCH	AcP	AcPH	Barth. Cyst.	Caut. Cerv. P	P 3rd° RV Fist.
374	47	37	2	5	1	5	6	3	1	2	1
Total.....											1267 Cases

C: Cystocele. T: Trachelorrhaphy. P: Perineorrhaphy. H: Hemorrhoidectomy. Ac: Partial amputation of cervix. U: Umbilical hernia. Vag.F.: Vaginal fixation. Barth. Cyst: Bartholin Cyst. Caut. Cerv.: Cauterization of Cervix. RVFist.: Recto-Vaginal fistula.

CHART 9. 111 PRIVATE CASES

Condition before confinement and end-results after delivery and repair

3 wk.		1 mo.		5 wk.		6 wk.		7 wk.		2 mo.		10 wk.		3 mo.		4 mo.	
b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a
++	—	+	—	++	—	++	—	++	—	+	±	++	—	+	—	++	—
		++	—	++	±	++	—			+++	—	++	±	+++	—	+	—
		+	—	+	—	++	—			++	—	++	±	++	—	+	—
		++	—	+	±	++	—			++	±	+	—	++	—	+	—
		+	—	++	—	++	±			++	±	+	—	+	—	+	—
		++	±			++	—			+++	±	+	—	+++	—	+++	±
		++	—			++	—			+	—						
										+++	*			+	—	+++	±
										++	—			+	—	++	±
										+	—			+++	—		
										+	—			++	—		
										+	—						
										+++	±						
										++	—						
1		7		5		7		1		14		6		11		8	

5 mo.		6 mo.		8 mo.		1 yr.		1½ yr.		2 yr.		3 yr.		4 yr.		5 yr.		6 yr.	
b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a
++	—	++	±	++	—	++	—	++	—	+	—	++	—	++	—	++	—	++	—
+	—	++	—	+++	±	++	—	++	—	+++	±	++	—	++	—	++	—	++	±
+	—	++	—	++	—	++	—	+	—	++	—	++	±	+	—	+	—		
+	±	+++	—	+++	—	+	—			++	±	+	—			++	—		
++	—	++	—	+++	±	++	—			++	±	++	—			+	—		
		++	—			++	—					++	—						
		+	—			+++	—												
						+	—												
						+	±												
						+	±												
5		7		5		10		3		5		6		3		5		2	

Total: 111 Cases

\*Patient developed perineal infection with sloughing.  
b: Before operation  
a: After operation.  
+ signs: amount of relaxation.  
— sign: no relaxation or perfect results.  
± sign: slight relaxation.

and shows that operative deliveries done with surgical care and technic do not interfere with the performing of gynoplastic repairs.

Chart 8 shows the various types of operations done at or shortly after childbirth.

Charts 9 and 10 show the end-results of 111 private cases examined from 3 weeks to 6 years after repairs.

Compare Charts 9 and 10 with a report by Tracy and First.<sup>5</sup> Post-puerperal examination in their clinic of 432 cases, showed a lacerated perineum in 272 cases, or 63 per cent, a laceration of the cervix in 391, or 90 per cent.

During the last few years, I have received letters from numerous obstetricians and gynecologists regarding their opinion of this work. It has been considered ultra-radical by some who are against this procedure on theoretical grounds only, but who admit that they have not had actual experience. Others have given it consideration and are doing a limited amount of repair.

CHART 10. RÉSUMÉ OF 111 PRIVATE CASES

Time after D. & R.	1st Degree Relaxation (or +)		2nd Degree Relaxation (or ++)		3rd Degree Relaxation (or +++)	
	No. of cases	Results	No. of cases	Results	No. of cases	Results
3 wks.			1	1 P.		
1 mo.	3	3 P.	4	3 P. 1 S.R.		
5 wks.	2	1 P. 1 S.R.	3	2 P. 1 S.R.		
6 wks.			7	6 P. 1 S.R.		
7 wks.			1	1 P.		
2 mos.	5	4 P. 1 S.R.	5	3 P. 2 S.R.	4	1 P. 2 S.R. 1 S.I.*
10 wks.	3	3 P.	3	1 P. 2 S.R.		
3 mos.	5	5 P.	3	3 P.	3	3 P.
4 mos.	4	4 P.	2	1 P. 1 S.R.	2	2 S.R.
5 mos.	3	2 P. 1 S.R.	2	2 P.		
6 mos.	1	1 P.	5	4 P. 1 S.R.	1	1 P.
8 mos.			2	2 P.	3	1 P. 2 S.R.
1 yr.	4	2 P. 2 S.R.	5	5 P.	1	1 P.
1½ yrs.	1	1 P.	2	2 P.		
2 yrs.	1	1 P.	3	1 P. 2 S.R.	1	1 S.R.
3 yrs.	1	1 P.	5	4 P. 1 S.R.		
4 yrs.	1	1 P.	2	2 P.		
5 yrs.	2	2 P.	3	3 P.		
6 yrs.			2	1 P. 1 S.R.		
Total:	36	+	60	+	15 =	111
Résumé	Perfect: 85 or 76.5%		Slight Relax.: 25 or 22.5%		Slight Improv.: 1	

\*Patient developed perineal sloughing.

D.: Delivery

R.: Repair

S.I.: Slight improvement

P.: Perfect results

S.R.: Slight relaxation

Among these are Holloway of Knoxville, Tenn., Danforth of Evanston, Ill., Eliot Bailey of Brooklyn, N. Y., Tracy of Philadelphia, Penn., King of Toledo, Ohio, Titus of Pittsburgh, Penn., and Royston of St. Louis, who repair the cervix and perineum, and Potter of Buffalo, who repairs only the cervix.

In 1906, Dr. F. H. Stuart,<sup>4</sup> and in 1916, Dr. F. A. Hussey,<sup>3</sup> both of Brooklyn, N. Y., reported work along this line, limiting themselves to the repair of the cervix and the perineum, but they were forced to discontinue their efforts because of inadequate facilities.

There is an increasing number who have become convinced, after careful study and trial, that this is a safe and advisable procedure providing that the technic is carefully carried out as advocated. Dr. Wm. Graves, of Boston, Mass., is a strong advocate of early repair, even if there is a possibility of later child-bearing. He says that he becomes more and more convinced that early repair of the cervix will prevent many cases of cancer.

Among those who have had considerable experience and are enthusiastic about their results are Polak of Brooklyn; Friedlaender, Rothman, Kirschbaum, all of Detroit;

CHART 11.

CHART 11. DAYS IN HOSPITAL FOR DELIVERY AND REPAIR (from January, 1922, to July, 1929)																
No. of Days	4 to 10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25 to 43
Cases	26	24	41	92	220	193	216	181	115	49	28	29	21	12	4	16
Total.....																1,267 Cases
The average stay in the hospital during 1928 for delivery and repair was 15.3 days, just one day more than the usual stay for a delivery or a gynecological repair.																

CHART 12. THE ECONOMICAL PHASE OF GYNOPLASTIC OPERATIONS

	per day	for 2 weeks	1414 cases
Average cost at Mount Sinai Hospital.....	\$7.50	\$105.00	\$148,470.00
Average charge for gynecological operation.....		75.00	106,050.00
Average cost of extra help, husband's loss of time, and other incidental expenses .....		75.00	106,050.00
	per year	for 4 years*	
Average cost for gynecological treatment for old lacerations and resultant complications.....	\$15.00	\$60.00	84,840.00
Total .....			\$445,410.00
Average extra charge for repair after delivery.....	\$25.00		35,350.00
Amount saved by community through GYNOPLASTIC REPAIRS.....			\$410,060.00

\*There were no exact data to figure on. Many patients would have had treatments for 10 or more years. Others might have had very few treatments. Therefore, we figured that four years would be a fair and conservative average.

Reinberger, P. W. Toombes, W. T. Pride and their associates of Memphis, Tenn.; Boyes of Kalamazoo, Mich., Rongy of New York, and Hoffstätter of Vienna.

#### ECONOMICAL ADVANTAGES

Numerous articles have been written lately by physicians, economists, and sociologists on the high cost of medical service. The government has also started an intensive five-year survey on medical costs.

E. A. Filene<sup>2</sup> states that "the high cost of sickness, at least among the middle classes, is as potent a cause for social unrest as poverty among the poor. Many lives have become twisted and warped by the financial burdens of illness."

Most of the patients included in our series of 1,414 cases operated at the Mount Sinai Hospital during the past 13 years were of the working classes or were dispensary cases, and, though they had suffered for years from old lacerations, could not be induced to enter the hospital for repairs on account of their large families, the expense, the help problem, and the fear of the operation. By doing the necessary gynecological repairs at the time of confinement, it has been possible to put these patients in much better physical condition, and at the same time not prolong their stay in the hos-

pital to any great extent, as Chart 11 will demonstrate.

Chart 12 shows the indubitable saving to the community of at least \$410,000,000 during the last thirteen years.

Since we started doing gynoplastic repairs, our gynecological work both in public and in private wards has become almost nil among the patients we have delivered.

Summarizing the physical and economical advantages of gynoplastic repairs, we claim that:

1. It is a sound procedure,
2. The patients are saved the possibility of years of invalidism,
3. Their stay in the hospital is not unduly prolonged,
4. They leave the hospital in the best possible physical condition,
5. They are saved the extra trouble and expense incidental to a return visit to the hospital for repair work.

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## THE DIAGNOSIS AND TREATMENT OF ACUTE OSTEOMYELITIS IN CHILDREN

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DETROIT

Osteomyelitis is an inflammatory disease of the bone. The two general clinical classifications are "acute" and "chronic." It is one of the most serious diseases of childhood. First: because of the possibility of septicemia; second: because of the frequent and permanent crippling result and, third: because of the frequent long convalescence that may follow even with the most skillful medical and surgical management.

Clinical observations indicate that it is most frequently seen in city children among the poor, although it is found in children living in the rural communities. In this paper reference will be made to a series of 72 cases\* classified as acute osteomyelitis which were studied under my supervision during the years 1927, 1928 and 1929. In this study it is observed that the average age was between 6 and 7 years, the youngest one month, and the oldest 12 years. The incidence of the disease decreased as they approached maturity. Sixty-one per cent were males and 39 per cent females; 90 per cent were white, and 10 per cent colored.

### ANATOMY

In discussing this condition the long bone is given chief consideration, and in order to understand bone pathology some mention must be made of the anatomical structure. The shaft of the long bone is referred to as the diaphysis, and at one or both ends is the epiphysis. The structure is made up of compact and cancellous bone, periosteum and marrow. That part of the diaphysis near the cartilage, which is between the shaft proper and the epiphysis (juxta-epiphyseal) has been called by Lexer the "metaphysis." The metaphysis or cancellous portion is the most vascular since it is the growing portion of the long bone; it is also the common site for the development of acute osteomyelitis.

\*From the Surgical Service, Harper Hospital and Children's Hospital of Michigan, September, 1930. Read before the Pediatric Section, Michigan State Medical Society.

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The periosteum surrounds the entire bone except at the articular ends and is a fibrous membrane, containing blood vessels that enter the haversian canals and communicate with branches of the nutrient artery. The branches of the nutrient artery pass through the marrow and supply the deeper layers of bone. Another source of blood supply is from the cortical vessels in the epiphyseal cartilage.

### BACTERIOLOGY

Osteomyelitis is a blood-borne infection, which fact has been confirmed by clinical and laboratory study. The source of the infection can often be traced to infected lesions of the skin (Phemister), or to lesions elsewhere in the body. The following information is listed in the histories of this series: Blister on foot; boil one week ago; abscess left chest; infected umbilicus and hand; otitis media; tonsillitis; multiple abscesses, etc. Cultures taken at operation of these cases showed the following organisms when the culture was positive: Staphylococcus pyogenes aureus, 36 per cent; staphylococcus pyogenes albus, 21 per cent; streptococcus, 7 per cent; pneumococcus, 3 per cent; and diplococcus, 3 per cent. Many cultures taken were reported as showing no growth. A small percentage showed positive blood cultures. Pasteur, in 1870, showed that the germs in boils were the same type of germs found in osteomyelitis.

Clinical observations show that the virulence of the organism and the general physi-

cal condition of the child may influence the extent of the lesion. The history of a child sick with osteomyelitis often reveals the fact that there has been some preceding infection or debilitating disease. Faulty habits of eating naturally predispose to malnutrition. For example, a physician relating the history of his boy's illness which was diagnosed as osteomyelitis remarked that the boy had been a feeding problem from birth. Another fact which influences the disease is the season; 22 per cent were ill in August, 14 per cent in September, and 12 per cent in July. The greatest number entered the hospital in the late summer. Low grade infections predispose to abscess formation or superficial cortical involvement and do not extend up the shaft but may metastasize, a process appearing as an abscess in some other long bone. Thirty-three per cent of the cases in this group showed metastasis.

#### PART PLAYED BY TRAUMA

Trauma must play a part as an etiological factor, as it was reported in 40.5 per cent of the cases. Some of the accidents referred to, and the bone involved, were as follows: Hit on lower left leg, left tibia; fall on the left knee, left tibia; hit by baseball one week ago, left radius; skating and fell on knee, left tibia; fell on knee 6 weeks ago, left femur; fell and injured left knee, left femur; fell on right shoulder, right humerus; twisted ankle one week before, left tibia, etc. The injury may be a direct blow or a twist near the joint. The bones affected in this study reveal the following: Left tibia, 21 per cent; left femur, 18 per cent; right tibia, 17 per cent; right femur, 14 per cent; humerus, 7 per cent; left fibula, 6 per cent; right and left radius, each 4 per cent; metatarsals, 3 per cent; clavicle, 3 per cent; os calcis, 3 per cent; mandible, 2 per cent; and ulna, rib and ilium, each 1 per cent.

To quote from the work of the late Clarence Starr: "Trauma will lower the vitality of the part injured and render it more susceptible to infection. The offending organism carried by the blood stream reaches the finer capillaries in the juxta-epiphyseal region of the long bone. If the general resistance of the individual has been lowered and the local resistance has been reduced by some trauma an infective process is begun and a small inflammatory area in the cancellous bone near the epiphyseal line results."

The infection originates in nearly all cases at the metaphysis, very few being found in the center of the diaphysis. Lexer believed that the reason for this localization was mainly mechanical and that circulating organisms were apt to be delayed in the loops and the sinuses in the metaphysis.

#### PATHOLOGY

Wilinski has attempted to arrive at something definite as regards the end-results of acute osteomyelitis from a roentgenographic study. He concluded that the process is a thrombo-embolic phenomenon with the development of a pathological process which is characterized by a thrombo-arteritis or a thrombo-phlebitis and necrosis of the bone cell and tissue. It is apparent from his study of the anatomical, pathological and clinical facts of the tissue that either the nutrient artery or one of its branches becomes occluded. My observations verify this fact, particularly when the pathological process has been found to have progressed in spite of what was thought to be early adequate drainage at the apparent site of the disease; destruction of the whole or half of the diaphyseal shaft has occurred in some instances.

Stripping of the periosteum as shown by Gallie will interfere more or less seriously with the circulation of the bone, depending upon the size and number of blood vessels destroyed. Robertson and Gallie have also shown that in stripping of the periosteum over even small areas of the shaft of the bone of animals, coagulation in the haversian canal occurs to a considerable depth and the lacunar cells which derive their nutrition from these vessels become necrotic and slowly disappear. The superficial necrosis they have shown is by no means extensive and usually gives rise to no clinical symptoms, as the circulation is rapidly re-established and the necrotic bone quickly absorbed and replaced by normal bone. Gallie has further shown that there is not a re-establishment of the circulation in these necrotic areas of bone in the presence of sepsis, and no invasion by the osteoblasts from the neighboring living bone. If the drainage of pus is sufficiently free to allow the acute inflammation to subside and so terminate the spread of the destruction of the circulation the residual septic irritation along the edges of the necrotic bone stimu-

lates the osteoblasts in the surrounding living tissue to greatly increased activity.

#### SYMPTOMATOLOGY

*The outstanding subjective symptoms of osteomyelitis are pain and inability to use the extremity or to walk if the process is in one of the long bones of the leg. The outstanding objective finding is tenderness at the point of disease and this is most often near a joint. Where tenderness is localized in one particular bone, suspicion should be aroused at once as to the possibility of acute osteomyelitis. The pain suffered by these little patients must be excruciating, and if seen early they usually remember the approximate time of the sudden discomfort. The pain and tenderness is all out of proportion to the clinical evidence and is due to the extreme tension within an unyielding tissue. Unfortunately, when this pain subsides, due to early perforation of the cortex, the clinical picture is often misleading and surgical interference may be unfortunately delayed. During the period of this apparent improvement, the pathological process continues to progress. After perforation of the cortex, there is local swelling and redness, combined with tenderness along the shaft of the bone. The adjoining joint may also be swollen, due to possible effusion or an accompanying suppurative process associated with an osteomyelitis of the epiphysis. Manipulation of the joint near the site of osteomyelitis is usually possible without much discomfort, providing it is done gently. The clinical picture of early sepsis manifests itself with fever and may be initiated with a chill. The temperature ranges from 102° to 104°, and is associated with a rapid pulse, malaise, headache and sometimes vomiting. The child looks sick and because of the overwhelming toxemia important symptoms previously mentioned may be masked. Delirium, stupor, and even convulsive seizures may be observed. With perforation into the subperiosteal space the temperature may drop and improvement be observed in the general condition; however, this improvement is but temporary.*

#### BLOOD PICTURE IN ACUTE STAGE

The blood picture during the acute stage usually shows a marked leukocytosis and a definite increase in the polymorphonuclear cells. The blood counts in some of the series were reported as follows:

Total white cells	Polymorphonuclear cells
18,500	82%
30,250	85%
36,900	77%
28,000	86%
39,300	76%
34,000	81%

#### X-RAY OF LITTLE VALUE

The X-ray findings in the acute stage are of little value. Unfortunately for the patient, many physicians depend too much upon X-ray evidence in making a diagnosis of bone lesions. It is true that X-ray examination is essential in the successful diagnosis and treatment of bone diseases if changes are present; however, in the early stages of osteomyelitis the changes are not sufficient to alter the bone detail. At the end of four or five days irregularities or a fuzziness may be seen at the epiphyseal line on the diaphyseal side, seldom on the epiphyseal side. Also there may be decreased density near the point of greatest tenderness (this finding may be observed better with a magnifying glass). Later the decalcified moth-eaten appearance of the bone, or the circumscribed shadow of an abscess, reveals the site of the pathology. Early study of the X-ray film with the roentgenologist is important.

The physician's knowledge of the history and clinical findings offers to the roentgenologist valuable information which should assist in the correct interpretation of the X-ray appearances. Too often a negative report, as regards early bone pathology, is returned, simply because no clinical data accompanied the patient, when osteomyelitis was suspected. The technic of X-raying the bones for the best possible bone detail is another important factor. The X-ray examination should include the opposite limb in the film for a comparison as an aid in the proper interpretation of early bone involvement. The age of the patient and the duration of the disease are also facts important for the best judgment of the technician in determining the time of exposure and proper development.

#### DIFFERENTIAL DIAGNOSIS

The early diagnosis of acute osteomyelitis requires careful analysis of the differential points in diagnosis. On the other hand the subacute and chronic stages of the disease are much easier to classify, having the clinical as well as the X-ray evidence to assist in the classification. The question of

pain near a joint has already been mentioned; such pain combined with tenderness often leads one to suspect an acute arthritis or rheumatic fever. Rheumatic fever is seldom monarticular and it is quite impossible to manipulate a swollen, hot rheumatic joint without evidence of severe pain, while the joint near an acute osteomyelitis can be moved, if manipulated gently; the constitutional symptoms are also more pronounced in acute osteomyelitis. An acute suppurative joint or bursitis can be eliminated by aspiration and bacteriological examination of the fluid. Gonorrheal arthritis should easily be eliminated by the absence of a history of gonorrhea and clinical evidence. Fractures of the green stick type present local symptoms not unlike osteomyelitis; absence of temperature and constitutional symptoms, supplemented by X-ray evidence, makes clear the diagnosis. An acute osteomyelitis of the neck of the femur presents a clinical picture closely resembling that of an acute suppurative hip joint. The leg is usually held everted and abducted, resembling the clinical picture of a fractured neck of a femur. The diagnosis may be difficult to make, although with an acute suppurative joint there is usually more pain on motion and more noticeable muscle spasm. Aspiration of the hip joint should be done if one is doubtful in the differential diagnosis between a suppurative hip joint and an osteomyelitis of the neck of the femur. Where the cortex of the neck has perforated there is an associated suppurative joint. Rectal examination should always be done where bone inflammation is suspected about the hip joint or pelvis.

A localized cellulitis often closely resembles osteomyelitis at the stage of perforation. The local swelling with induration and evidence of a break in the skin and absence of bone tenderness assists in determining the true condition. Cellulitis of metastatic origin may not be as easy to differentiate. An epitrochlear adenitis with suppuration may easily be mistaken for an osteomyelitis of the lower end of the humerus. This condition usually reveals the avenue and entrance of infection in the finger or hand.

Erysipelas may present evidence suggesting bone inflammation but it is usually differentiated by the presence of the characteristic erythema seen in erysipelas. Erythema nodosum not infrequently is mistaken

for osteomyelitis. This condition may be differentiated from a bone inflammation by the absence of severe constitutional symptoms and no bone tenderness. Scurvy should easily be differentiated after careful consideration of the history, physical examination and X-ray findings.

#### TREATMENT

The treatment of acute osteomyelitis is essentially surgical and the earlier the diagnosis can be made and drainage instituted the better is the prognosis. That these patients are seriously ill should be borne in mind. Although proper and adequate drainage is important, it is unwise to attempt too much surgery; a few drill holes and the removal of that portion of the cortex between them over the site of the acute process many times suffices. The holes should be in the cancellous portion of the diaphysis near the epiphysis, because, as I have stated, the early process usually begins in the metaphysis. The operating period should be as short as possible, consistent with good work. The anesthetic of choice is gas-oxygen and the surgery should be done under tourniquet control. A plaster dressing is advised to immobilize the joint above and below or a Thomas splint with fixation may be used. The operation may follow a preliminary blood transfusion or the child may be transfused following operation. The fluids are forced and in addition glucose or saline may be given intravenously or subcutaneously, depending upon the needs and condition of the child. The time period for an acute process to extend and involve the medulla may be very short. Some cases admitted and operated upon less than a week after the onset of acute symptoms have shown medullary involvement necessitating the opening of the canal. A mistake often made is simply incising the periosteum and not drilling into the shaft. The finding of subperiosteal pus means that the cortex has perforated and it is doubtful if this perforation allows of adequate drainage.

The type of drainage material varies with the condition found. The usual practice is to wall off the drained area along the wound edges with paraffin vaseline gauze. Dakin's tubes are then placed at the bottom of the wound, after which it is packed with vaseline paraffin gauze. This packing is not disturbed for several days or longer after

the "Orr Method" unless the child's condition or chart suggests the possibility of hemorrhage, inadequate drainage or retention. "Dakinization" of the wound may be started several days after operation. The drainage provided after an early diagnosis, combined with good surgical after-care, may be sufficient to carry the patient through to a successful termination of the disease with a comparatively short period of morbidity. On the other hand, the destructive process may progress and become chronic, necessitating saucerization or later sequestrectomy. The need for subsequent operation depends upon the clinical course and the changes observed in the bone structure after careful "follow-up" roentgenologically. At the Children's Hospital transfer to the convalescent home at Farmington is considered advisable as soon as the condition becomes chronic and the transfer safe.

#### SUMMARY

Acute osteomyelitis is one of the most serious ailments of childhood and is most

often seen among poor city children. The infection in blood-borne and usually follows a pre-existing pyogenic infection; the process is a thrombo-embolic phenomenon.

Trauma may be considered an important etiological factor.

Early diagnosis, after careful consideration of the history and clinical findings, followed by early surgical interference and good subsequent care, combined with the good sense and coöperation of the family, materially improves the prognosis and shortens the period of morbidity.

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### BEHAVIOR PROBLEMS OF SCHOOL CHILDREN\*

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Before proceeding to the subject matter of today's discussion, I have been asked to comment briefly on recent plans for increased facilities for the study of the child at the University of Michigan. There is being established at the University a program in the field of nursery and elementary school education and child development. The building to house these activities has just been completed and will be occupied for the first time this fall. Children from the age of two to twelve years will be enrolled in the school when it is operating at full capacity.

In addition to the staff for instruction, there will be a corps of full time and part time workers engaged in investigations on the mental, social, physical, and emotional development of the child.

The current trends in this field emphasize the integration of groups of workers from a large number of specialized subject matter fields. We thus find represented, in various centers, workers in the fields of pediatrics, psychiatry, sociology, anatomy, dentistry,

nutrition, education, psychology, etc. Time today will not permit me to dwell on the contributions of such an attack upon the problems of childhood.

I have distributed some plans which will give you an idea of the scope of the project. Special equipment is being provided to bring to bear all of the modern tools of investigation in the various fields. The research work will be supported by the University and by gifts from interested foundations.

There appears to be at present a wave of popular interest in the scientific study of children. This interest is attested by the establishment of numerous child guidance clinics throughout the country, by the increasing influence of the juvenile court, by

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research on the preschool child in institutes of child welfare, by movements for parental education, and by an increasing number of individuals devoting themselves to the problems of child development with the resultant increase in the literature devoted to such studies. An examination of this literature reveals a growing emphasis on traits of character and personality.

Evidence that points to the importance of the individual's early life in the formation of habits that may make or mar his future life is accumulating daily. Such evidence suggests the possibility of prevention and control through the application of knowledge gained from a genetic approach to the problems of personality, delinquency, and nervous disorders. There is a feeling on the part of some that studies of this kind concern only the particular individual—the individual who is different, unusual, odd, or so marked by physical, mental, social, or emotional characteristics as to set him apart from the common group of children. Such evidence as is available on the distribution of conduct disorders, on emotional stability, on honesty, and on nervous habits indicates that these problems are the problems of every child, just as are matters of height, weight, intelligence, and educational achievement. These facts stand forth whether the study is made by rating-scale methods, by test methods, or by direct observation of child behavior. Research in this field, then, is not limited in its application to the extreme deviate whose failures are so pronounced as to make them easily observable.

Most of us are interested in some phase of prevention or remedy for problems in the field of social, physical, or mental health. Before such preventive or remedial measures can be employed, however, a precise description and analysis of controlling factors is essential. With respect to most of our problems in the field of behavior we are still in the fact-finding stage. We have not been able to evolve formulæ for the accurate prediction and control of behavior. I should like to spend the major share of my time today in discussing the results of certain methods of attack in the study of undesirable behavior. The first will be concerned with so-called "behavior problems" of children, and the second with nervous mannerisms in the category of tic.

We shall pass by a discussion of the con-

troversial problems involved in whether or not problems of behavior should be considered as largely organic or functional in their origin, or both. Let us content ourselves for the present with a somewhat pragmatic approach to the problem. We shall regard a behavior disorder as a type of behavior which represents a discrepancy between the capacity of an individual for adjustment and the demands that his environment makes upon him for adjustment. The deficiencies in adjustment may be inherent in the heredity and constitution of the child or in the habit conditioning he has acquired in response to his past experiences. It is obvious, too, that the definition of a behavior problem is a somewhat shifting one. Since the social criterion of acceptability of behavior is so frequently involved, in a sense it is theoretically possible to create problems by the adoption of certain attitudes toward given types of behavior. It is obvious, too, that what constitutes a behavior problem in one community or in one district or in one social environment may not be precisely the same as in another where other standards are involved.

If we examine the clinical literature with respect to the problems of behavior encountered in children of the preschool age, we find a list something like this: feeding, authority, nervous habits, fears, speech, playmates, temper tantrums, sleeping, over-activity, fatigue, toilet habits, and a large group of habits of lesser frequency.

If we turn to the problems encountered in school children, we find in the field of conduct such problems as these: Uninterested in school work, cheating, unnecessary tardiness, lying, defiance to discipline, marked over-activity, unpopularity with children, temper outbursts, bullying, speech defects, sex offences, and truancy.

If we turn to other specialized fields of emotional and personal adjustment we might, of course, multiply this list very greatly. With respect to such problems as these we are faced with the desirability or necessity of learning something of the causative factors involved in such behavior and of the possibilities of amelioration through remedial technics.

The definition of a conduct disorder as a discrepancy between the capacities of the individual for adjustment and the demands of his environment gives a clue to the technic

which may be employed in improving the situation.

Dr. Schwartz has described to you already the technic of approach common in organized child guidance clinics. The various specialists attempt in a sense to inventory the capacities of the individual for adjustment and the demands of his environment, list the points of conflict, and then resolve them by appropriate technics. These technics may be concerned with the person, as in the case of remedial physical defects, or mental deviations amenable to psychiatric therapy, or they may involve the manipulation of the environment so that certain stimulating factors are removed, so that the requirements are lessened, or so that new stimuli promoting the desired behavior become present.

It has been my interest to determine, if possible, whether the descriptive factors involved in behavior problems are subject to measurement and whether after such measurement they can be utilized in the prediction of future behavior and in the determination of certain concomitant causative factors.

We speak frequently of the problem child as being one who possesses one or more behavior problems. It is my thesis that all children are problem children, but that they are so in varying amounts and that the number and seriousness of problems fluctuate through a wide range so that measured data tend to give a distribution of children which is comparable to the distribution we obtain for height, intelligence, and a large variety of physical and mental measurements.

This conclusion was arrived at by a study of behavior problems of some three thousand children in the public schools of Minneapolis. Certain schedules were devised for reporting problems of behavior and personality ratings on children. (Speaker illustrates with charts.) It was discovered in the use of these devices that they apparently had some reliability and some validity for the prediction of future behavior. Thus, in the examination of consecutive cases as they were referred to a child guidance clinic, it was found that half of such cases came from the highest ten per cent of undesirable conduct in the general school population. Within the clinical group, it was found that the behavior ratings also gave a ranking which was consistent with the seriousness

of the disorder that the child manifested. These particular schedules did not differentiate the shy, emotional, or shut-in types with outstanding success. They apparently, however, differentiated a child who was aggressive in his violation of school discipline and social conventions generally. It was found also in a subsequent analysis of cases that the schedules were predictive of delinquency that occurred after the record had been made.<sup>†</sup>

A study is now under consideration in which about three thousand records will be analyzed after a period of six years to determine whether behavior ratings made that far in advance will predict later delinquency.

In analyzing the data on problem tendencies, it appeared that there was a slight tendency for the child of handicapped intelligence to have more problems of behavior than the one of adequate intelligence. The relationship was not high, however, and there were numerous exceptions. In general, the child who was retarded in his school work appeared to have more problems than the child who was at grade or advanced. There were some indications that inability to adjust to the demands of the school environment was one fruitful cause for the production of behavior problems. It appeared, however, that in general records made in school were somewhat predictive of out-of-school behavior.

I mentioned that the devices described above did not differentiate certain specialized types of behavior problems. One whole group of such problems is encountered in the field of nervous habits of children. It was possible to devise a method for measuring nervous habits in children through observation so that quantitative records could be secured and so the habits could be related to other factors in the child and his environment.

The speaker first turned to the literature on tics to secure the objective symptomatology which might serve as an indicator of an undesirable nervous condition. Preliminary checks were made of the frequency of occurrence of the various manifestations in normal children. The more frequent ones were then grouped for purposes of observation as follows:

<sup>†</sup>A description of the construction and use of the scales may be found in Willard C. Olson's "Problem Tendencies in Children," published by the University of Minnesota Press, Minneapolis, Minnesota.

1. Oral (sucking thumb, sucking fingers, biting nails, or protruding tongue).
2. Nasal (picking nose, scratching nose, or wrinkling nose).
3. Hirsutal (pulling and twisting hair, or scratching head).
4. Ocular (rubbing eyes, blinking eyelids, or winking).
5. Aural (pulling ear or picking ear).

By the very simple expedient of selecting a single category of behavior, watching it for a constant time in a group of children, making a record, and repeating the observations, it became possible to actually get measured data which would differentiate children with respect to the habit under consideration. This procedure also adds to the reliability of the record so that a person can have some assurance that two people would get the same result, or that the same person might get a similar result on another occasion, providing the behavior studied is such as might be assumed to be somewhat constant.

I shall not encumber you with all of the details of the investigation.† If we make twenty observations of habits in the oral

category, we find that very few children will fail to show such habits and very few will show them on each occasion. The largest number will score about ten and there will be variations between zero and twenty, as we find for most measured traits.

When the records are studied in detail, it is found that girls exceed boys in the number of oral habits and that there are no significant increases or decreases with age during the elementary school period. There is evidence that undernourished children will have more nervous habits than the average child, and that fatigue during the school day tends to aggravate their manifestation. Children with a neurotic family history tend to show slightly more of the habits than the average child, and twins or members of the same family will resemble each other more closely than children chosen at random. All of the findings, I believe, carry suggestions for treatment. Methods of treatment, as well as description, should be subjected to experimental inquiry.

I might go on and multiply similar investigations on the behavior of young children. I believe enough has been said, however, to indicate that behavior problems have a real relation to the field of the pediatrician.

†For the complete account, see Willard C. Olson's "The Measurement of Nervous Habits in Normal Children," published by the University of Minnesota Press, Minneapolis, Minnesota.

## THE DIAGNOSIS OF TUBERCULOSIS OF THE SPINE\*

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During the past six years at this institution about 250 cases of Pott's disease have been seen. Among these have been so many late cases that one is impressed with the necessity for earlier diagnosis.

In no region of the body is it more necessary to examine all that is before one's eyes than in the clinical and roentgenological examination of the spine. Spinal symptoms are frequently explainable by lesions elsewhere and spinal lesions often give the most strange symptoms in other parts of the body. As an illustration of this, one cannot do better than present a case.

*Case No. 214535.*—This patient, a white youth, aged 18, who had been a foundry worker, was admitted to the University Hospital in April, 1929. His chief complaint was of "sharp pain in the abdomen and along the spine." He had been unable to work for a year as during this time he had had numerous attacks of pain, sometimes dull in character, at other times sharp and shooting, in his back, left loin and abdomen; there had been headaches, dizziness, vomiting, fever, night sweats, loss

of weight, nervousness and, between attacks the patient was readily fatigued. There was no cough, sputum or hemoptysis. He had been treated by several doctors for "influenza," "septic tonsils," and "goiter."

The patient was admitted to the medical service here and the differential diagnosis considered was subacute bacterial endocarditis, gastric ulcer, perinephritic abscess or Pott's disease. The noteworthy point is that roentgenological studies were made of the urinary and gastrointestinal tracts and of the lumbar spine and they were reported negative, but that, on review in the light of information obtained subsequently, there was no doubt that a definite lesion should have been observed in the intervertebral region of the twelfth dorsal and first lumbar vertebrae. After a short delay, the diagnosis of Pott's disease of this region was proved, partly as the re-

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sult of good lateral X-ray studies centering upon this region.

In tuberculosis we have special reasons for being insistent on this need for wide observation—firstly, because the spinal lesion is metastatic, and, secondly, because of the widespread effects of abscess formation. The latter may track to distant points and give rise to severe constitutional disturbances, especially if secondarily infected.

Let us, then, consider the diagnosis of Pott's disease, clinically and roentgenologically. The classical picture of a patient with a kyphus, muscle spasm, limitation of movement in all directions associated with a history of backache worse at night, chronic cough, loss of appetite, wasting, and perhaps the presence of a psoas abscess or paralysis is *terribly* easy to diagnose; I say "terribly" with intent because it is terrible as indicating a late stage of the disease with a serious prognosis.

The diagnosis of Pott's disease must be made, if possible, before destruction of bone has occurred and before the formation of abscesses. This, then, is the reason why we orthopedic surgeons burden you roentgenologists with so many apparently benign backache cases. We possibly err here on the side of over-roentgenography: it is better thus than to miss early tuberculous cases.

Tuberculosis of the spine has its greatest incidence in the first decade of life, especially at about 5 years of age. It is probably hematogenous, though in children the lymphogenous spread from bronchial or mesenteric glands has seriously to be considered. Of great interest is the knowledge concerning the site of origin of these spinal lesions. Four possibilities are usually given: (1) central, (2) epiphyseal, (3) periosteal, (4) intervertebral disc. In children the frequent involvement of a single vertebra supports the view that in them the disease has its origin in the center of the body or close to the epiphysis; though there is a group of cases where early destruction of the intervertebral disc occurs with equal destruction of the contiguous vertebral bodies.

Many of the children that have been brought to us show the disease far advanced. The explanation in some is probably that the destructive process is a rapid one, in others that parents are negligent or unobservant and in a few that the symptoms and signs were perhaps vague and that the examining physician could not make the di-

agnosis. All too frequently we are told that the first thing noticed was a lump in the back. The classical story of night cries, fever, pain in the back, anorexia, loss of weight, spinal rigidity may be incomplete and all that the patient presents is some malaise, irritability and unusual fatigue. Careful clinical examination may reveal tenderness over one or more spinous processes, some spinal rigidity and, one hopes, *no* kyphus or abscess. In 28 cases selected at random from our series of children under ten years of age, 16 cases had had symptoms lasting one year or more and 18 cases had kyphus as a prominent symptom. A few characteristic case histories follow:

*Case No. 231867.*—Female child, aged 10; for one year had pain in right "hip" with increasing tendency to drag right leg. Received chiropractic treatment. No night cries, fever or cough. Has lost 8 pounds. Examination revealed severe right sciatic nerve irritation, marked spinal muscle spasm, complete loss of all lumbar movement but no kyphus. X-ray confirmed diagnosis of lumbar spinal tuberculosis.

*Case No. 233898.*—Male child, aged 6. About 18 months previously there had been a vague abdominal complaint with pain in the epigastrium unrelated to food. Three months ago a small kyphus in lumbar region was noticed and there has been a change in posture, the body being bent backward and to the right. The kyphus has gradually increased in size but there has been no pain. Advanced tuberculosis was found affecting the third and fourth lumbar vertebrae with psoas abscesses.

*Case No. 253366.*—Female child, aged 3. For four weeks had been unwell; main feature was general irritability. During last two weeks developed a limp in right leg and was unable to walk. Tires easily. Unable to sit up. Examination showed a very rigid, painful lumbar spine with prominence of the lower spinous processes. Tuberculosis with marked destruction of fifth lumbar vertebra.

In adults we regard the disease as most frequently intervertebral in origin in view of our frequent finding of reduced intervertebral space as the earliest roentgenographic appearance. This of course is followed by destruction of the neighboring bodies.

The bone lesion of tuberculosis is therefore one of osteolysis and is associated with considerable surrounding osteoporosis. The formation of necrotic masses of bone while not characteristic is occasionally seen, such sequestra differ from those found in osteomyelitis in being less dense and having less clear-cut edges—they appear woolly. In the spine the lesion is a single one in most cases and affects two or more vertebrae with derangement of normal spinal alignment chiefly in an antero-posterior direction because of the wedging produced by the greater destruction of the anterior portions

of the vertebræ. Scoliosis due to lateral wedging is not unknown. Multiple lesions though uncommon must always be watched for, especially in patients with an active pulmonary lesion.

*Case No. 166707.*—White youth, aged 20, was in August, 1928, under treatment in the Tuberculosis Unit of the University Hospital, having tuberculous disease of the lungs, the right epididymis and left wrist. During this time he commenced to complain of pain in the right sacroiliac region. After a week he was examined in the orthopedic department: no limitation of spinal movement was found and there was no muscle spasm. X-ray examination limited to the lumbosacral region was reported normal. The patient was thought to be suffering from low back strain and a light support was suggested. He continued in the Tuberculosis Unit and also continued to have back pain. Three months later he was re-examined by an orthopedic surgeon, at which time there was marked spinal muscle spasm, with rigidity of the lumbar spine. On percussion over the region of the eighth thoracic spinous process, pain was referred to the lumbosacral joint, which was also tender to pressure. A tentative diagnosis of tuberculosis of the lower thoracic spine was made and this was confirmed when X-ray studies were made of the ninth and tenth dorsal vertebræ. A year later a second lesion was discovered (roentgenologically) between the first and second lumbar vertebræ.

Associated with the well advanced cases abscess may develop. These are most often paravertebral in position and give rise to fusiform or lobulated shadows which in old cases show a tendency to calcification within their walls. These abscesses follow the fascial planes along the lines of least resistance and thus are affected by gravity.

There are certain characteristics of the disease peculiar more or less to each region of the spine. In the cervical portion there is a tendency to subluxation; abscesses high up tend to be retropharyngeal and lower down are liable to track long distances along the branches of the brachial plexus. In the dorsal spine, especially in the higher segments, the spinal canal is narrower than elsewhere and it is here that most frequently is found an associated pressure myelitis. Bone deformity, however, plays a very small part in the causation of this complication. The spinal cord is very mobile normally and is extensible so that it is able to adjust itself to the bony deformity. Paraplegia may be of sudden onset, in which case it is usually due to abscess within the canal or it may be slowly progressive and is then more likely to be due to pachymeningitis. The latter form has the more serious prognosis. Abscesses get smaller under treatment.

The commoner abscesses in the dorsal region are paravertebral and mediastinal

and give rise to a characteristic fusiform shadow which must be distinguished from normal mediastinal structures. In patients who have been recumbent for a long period such abscesses are just as likely to track anatomically in an upward direction as downwards. While it is true that in the dorsal region there is less movement in relation to the rest of the body than elsewhere, nevertheless the rhythmic movement of the spine in respiration is most marked and, I am convinced, is one of the biggest factors in the accentuation of the disease and the production of the ghastly deformities that this region so frequently shows.

The region of the dorsolumbar junction in adults shows a special liability to the development of Pott's disease and this must be related undoubtedly to the special mechanical conditions that render this region more subject to trauma. Muscle spasm of the erector spinæ is very severe and the pain may be referred to the sacroiliac joint. Because of the relation of this area to the upper abdominal nerve plexuses there may be found abdominal symptoms, so marked as to suggest serious abdominal visceral disease (Case No. 214535).

In the rest of the lumbar spine the posterior deformity is usually largely disguised by the normal lordosis and by the ability of the region to develop compensatory lordosis above and below the lesion. Abscesses from this part of the spine may track backwards into the loin or downwards along the psoas sheath and in the latter situation are often detected in X-rays by deviation of the lateral border of this muscle. In the lower lumbar spine there is an increasing liability to cause pressure upon the peripheral nerves with resulting symptoms of sciatica.

In the investigation of unexplained cold abscesses one must look far and wide for the bone focus and not until every possibility has been exhausted should one venture to suggest abdominal lymph glands as the origin. In this connection one should not omit the study of the transverse and spinous processes, the laminae and ribs.

The liability of cold abscesses to rupture onto the surface of the body is well known; the result is an almost immediate superimposition of a secondary infection with pyogenic organisms. This complicates the clinical picture and produces roentgenological alterations. These changes depend largely upon the virulence of the invading

organisms and, where this is of low grade, seems to be associated with a more marked sclerotic reaction and the development of spur formations at the anterior and lateral aspects of the bodies which, under favorable conditions, aids in the healing of the disease. It is useless to expect such hypertrophic reactions of themselves to heal the tuberculous disease, as the unrestrained double infection is just as likely to kill the patient.

By conservative treatment spontaneous healing by fusion of diseased bodies does occasionally happen, especially in these mildly secondarily infected cases. In addition, particularly in the dorsal region, Nature makes a great attempt at healing by spontaneous ossification of the interspinous ligaments. The great difficulty about such healing processes is that in their rate of progress they fall short of the tuberculous lesion. Only rarely does bony healing overtake the tuberculosis. It is obvious why this should be so.

Concerning the progression of tuberculosis of the spine one important factor is that of movement. In all parts of the body movement favors the increase of the tuberculous process; most joints can, however, be immobilized by fixation in splints. The spine it is impossible to fix, except by operation, as there is a considerable rhythmic movement of each of the presacral segments with every respiratory movement of the chest, regardless of how the patient is held.

Reference has already been made to the occasional occurrence of multiple spinal lesions in cases of active pulmonary tuberculosis. One must also bear in mind the possible development of lesions elsewhere,

as for example in other skeletal structures or in the genito-urinary organs; all, including the spinal lesions, being the result of blood-borne bacterial showers from the primary focus.

Spinal tuberculosis therefore demands great care in its early diagnosis, in the discovery of the primary focus and in its observation for the development of associated tuberculosis lesions. Bearing the last two points in mind during treatment, one realizes the importance of giving the patient the best possible general care for a long period after the surgeon has effected fixation of the diseased region.

#### SUMMARY

1. A plea is made for the earlier diagnosis of spinal tuberculosis, especially in young children.
2. In children, restlessness and fatigue may be the only symptoms.
3. In adults the earliest symptoms are severe pain, muscle spasm, and limitation of movement and the earliest change found roentgenologically is a destruction of intervertebral disc as evidenced by a reduced and irregular joint space.
4. The well known liability of the dorso-lumbar junction to both trauma and tuberculosis should emphasize the need for careful lateral roentgen studies of this region.
5. The influence of respiratory movement in aggravating the disease in the dorsal region is noted.
6. Double lesions are not uncommon, particularly in patients with an active pulmonary lesion.
7. The tuberculous lesion requires treatment for a longer period than that necessary for the postoperative fusion of a spine.

### THE MANAGEMENT OF THE SURGICAL DIABETIC

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DETROIT

The management of diabetes mellitus is being constantly improved. The diabetic is living a longer, happier and a more useful life. With this promise, there is also a threat: as more diabetics live an increasing number of years, more and more of them will develop surgical complications. The diabetic is in no wise immune to the surgical conditions which afflict the non-diabetic, but is more susceptible than his non-diabetic brother to certain degenerative diseases which invariably follow disturbed carbohydrate and fat metabolism. The death rate for our young diabetics is decreasing, while it is rapidly increasing in the later age groups where sur-

gical complications are most prone to develop. It is estimated that 50 per cent of all diabetics at some time must face the sur-

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geon,<sup>1</sup> who, as a rule, is not ordinarily concerned with the management of diabetic complications.

The surgical complications which develop in diabetics may be grouped into two classes.

1. Abnormal anatomical conditions which impair the comfort, but do not jeopardize the life of the patient.

2. Acute inflammatory lesions which markedly increase the severity of the diabetes, and call for surgical relief at the earliest opportune moment. The first class should include all uncomplicated varicosities; all forms of benign tumors; all repair operations on chronic anatomical abnormalities, and all chronic inflammatory lesions which do not apparently fall in class two. In the second class we must include all forms of acute infectious and traumatic surgical disease, all forms of malignancy and all forms of gangrene. It is at once apparent that there is no condition in this classification that does not fall in the realm of a general surgical practice. These conditions are primarily no different in the diabetic than in the non-diabetic, but the patients are radically different, and a knowledge of the diabetic constitution is essential to their successful treatment.

The essentials of success in diabetic surgery are these: (1) a correct diagnosis, (2) an opportune time of operation, (3) a judicious choice of anesthetic, (4) gentle, rapid, skillful surgery, (5) proper post-operative care.

*Class 1.*—In the first class of cases the diabetes does not influence our diagnosis in any way. The operation should only be performed when there is no detectable evidence of diabetes. In other words when the diabetes is under perfect control. The pre-operative management of these cases should consist in establishing normal body weight, normal blood sugar, normal CO<sub>2</sub>, a normal blood count, and a normal urine. In preparation for the operation the diet should be relatively high in carbohydrate, moderate in protein, and low in fat. Insulin is advisable in cases where the patient cannot keep the fasting blood sugar below 150 mg. with a CHO intake of at least 150 grams daily. There is never any excuse for haste in the pre-operative care, and weeks or even months may be spent in preparing the patient for his half hour on the operating table.

The choice of anesthetic is not of great

importance in these cases provided it is not long continued. The post-operative care is essentially the same in all diabetics.

*Class 2.*—In the diabetic the diagnosis of acute inflammatory surgical disease is beset with many pitfalls. The picture is usually complicated by the developing ketosis, with its attendant dehydration, and blood concentration. The patient is less able to cooperate, and coma develops early in untreated cases. Nausea and vomiting will give no differential aid, as it is common in diabetic acidosis. The leukocyte count is of little or no value, as it may be 20,000 or more in uncomplicated ketosis. The differential count is somewhat more reliable, as the blood is usually concentrated in normal proportions in uncomplicated cases. The physical examination is notoriously unreliable and frequently leads to an erroneous diagnosis based largely upon tenderness and muscle spasm. The diabetic in acidosis may have the signs and symptoms of almost any acute surgical disease. Pain is often a prominent and distressing symptom in these cases. It may closely simulate a gall-bladder or renal colic, while occasionally a ruptured viscus may be suspected.

Sedatives and opiates are very dangerous; not only do they mask the symptoms and increase the difficulty of diagnosis, but they also tend to precipitate coma.

At this stage the treatment should be directed toward the relief of the acidosis. A diabetic in acidosis is never a fit case for surgery; only in extreme emergencies where the diagnosis is obvious, is it advisable to adopt surgical intervention before relieving the acidosis. With glucose intravenously and insulin subcutaneously, the acidosis can be speedily relieved, and at the same time the patient's resistance is markedly improved. Some of these cases lose their surgical symptoms when the acidosis is relieved, and those who do not can be operated with much greater safety.

If the diabetic has been under control and is not in acidosis when the acute symptoms develop, the case is somewhat simplified, and may safely be considered a surgical problem.

#### TREATMENT OF ACIDOSIS

When the patient is nauseated, and in all cases where it is desirable to relieve the acidosis in the shortest possible time, glucose should be given intravenously. This is conveniently given in 25 gram doses as a 12.5

per cent solution (50 c.c., 50 per cent glucose in 150 c.c. normal saline) in normal saline. This may be repeated every 1 to 2 hours until the ketosis is relieved. Fifty units of insulin may be given with the first injection of glucose. In severe cases it is well to divide this dose into 25 units subcutaneously, and the other 25 units administered slowly into the glucose saline solution as it flows down through the tube. This is usually done by inserting the hypo needle into the rubber tubing of the intravenous set, and discharging the insulin slowly, so that there will be some immediate insulin effect as long as the sugar solution is flowing into the vein. The insulin given subcutaneously is sufficient to take care of all subsequent injections of glucose. The bladder should be emptied completely every hour, and tested for sugar and diacetic acid. The Benedict qualitative test for sugar, and the Ferric chloride test for acetone and diacetic acid are perhaps the simplest and most reliable for ordinary use. It is safe to give 2 units of insulin for every 1 gram of glucose until the urine is sugar-free or the blood sugar is reduced to 150 mg. We are primarily interested in the acidosis, and our treatment is directed toward this end. Freedom from hyperglycemia and glycosuria is desirable, but not essential. As soon as the patient is free of acidosis the operation need not be longer delayed, regardless of a high blood sugar and glycosuria. In uncomplicated ketosis the dosage of insulin recommended here would quickly lead to hypoglycemia, but in the presence of infection the insulin is less effective, and the dosage must be regulated by the special needs of each individual case.

#### TYPES OF ANESTHETICS

As soon as the patient has been filled with fluids and is free of acetone and diacetic acid we are ready to consider the type of anesthetic. An ideal form of anesthetic has not yet been discovered, but there are many advantages in some of the forms of anesthesia we now have at our disposal.

CHLOROFORM is the most toxic of the inhalation anesthetics. One and one-half to 2 per cent of chloroform vapor is necessary to produce anesthesia, while 4 per cent is fatal. Of all anesthetics chloroform produces the most profound disturbance in metabolism, often leading to acetone, and diacetic acid in the urine, while in some cases

there may be a delayed toxic reaction with signs and symptoms very closely resembling diabetic coma.<sup>2</sup> The liver usually suffers the greatest injury, but there is extensive fatty degeneration in all of the other organs. Due to the increased destruction and incomplete oxidation of proteins there is an increase in the urinary nitrogen, creatinin, ammonia, and diamino acids. Glycosuria does not frequently occur. Considering these disadvantages and the relative merits of some of our other forms of anesthesia, chloroform should very seldom, if ever, be used in the diabetic, for even the shortest operations.

ETHER produces a more intensive hyperglycemia than does chloroform. The alkali reserve of the blood is lowered and acetone may sometimes be found in the urine, although less frequently than following chloroform anesthesia. Ether, due to its fat-solvent properties, is stored in the adipose and nerve tissues and in the liver. Prolonged ether anesthesia always gives rise to severe acidosis in the diabetic.

ETHYL CHLORIDE for prolonged operations is even more dangerous than chloroform. It does not give good relaxation. For short operations where complete relaxation is not essential, nitrous oxide and oxygen is to be preferred. When a gas apparatus is not available, and a very short general anesthetic is required, such as the lancing of abscesses, ethyl chloride is preferable to either chloroform or ether.

NITROUS OXIDE and OXYGEN is the least objectionable of all the inhalation anesthetics. Solis-Cohen says, "The tendency to cause acidosis is very much less marked than with ether or chloroform and the gas may be used with comparative safety in diabetics."<sup>3</sup> It produces hyperglycemia due to asphyxia, but this is not so marked as with chloroform or ether. For short operations on the diabetic where complete relaxation is not essential, nitrous oxide and oxygen is the anesthetic of choice.

SPINAL ANESTHESIA comes closest to our ideal for an anesthetic in diabetic surgery. The consciousness of the patient is not disturbed and the anesthetic itself has very little effect on carbohydrate metabolism. It is best suited for operations below the diaphragm, and is most certainly the classical anesthetic for amputations of the lower extremities in diabetics.<sup>4</sup> Its contra-indica-

tions are: (1) a very low blood pressure; (2) a very high blood pressure where a sudden drop would be dangerous; (3) operations on the upper part of the body where there would be danger of bulbar paralysis. For these high operations, local tissue infiltration and nerve block may be employed to good advantage. A local is better than a general anesthetic in diabetic surgery.

Sodium amytal is the one anesthetic that has no effect on carbohydrate metabolism,<sup>5</sup> and in fact it counteracts the hyperglycemia caused by morphine and ether.<sup>6</sup> It has the very great disadvantage in that it is not a true anesthetic at all, but rather a hypnotic, and must be supplemented by other forms of anesthesia. The greatest handicap to the use of amytal in diabetic surgery lies in the prolonged coma following the operation. The difficulties of post-operative care are increased as the patient may pass from amytal coma to diabetic coma, or insulin coma, without recognition and appropriate treatment.

Enough morphine should be given to allay restlessness, but especially in those cases where gas is to be administered the dose should be small, otherwise respiration will be so depressed that the gas cannot be given in sufficient quantity to produce anesthesia.

Atropin should not be given unless ether is to be used for the anesthetic. It is advisable to give 10 or 15 units of insulin just before the anesthetic is given to compensate for the hyperglycemia.

#### THE OPERATION

Diabetics are not suitable subjects for experimental surgery. Gentleness and the avoidance of tissue trauma are of paramount importance. The operation should be performed as rapidly as possible. The length of time required for the operation is of much more importance than the choice of anesthetic agent. Often a 2 or 3 stage operation is better than attempting to complete a long complicated operation at one time. It is best never to attempt to do more than one operation on a diabetic at one time.

#### POST-OPERATIVE CARE

In those cases that have received an inhalation anesthetic it is always advisable to terminate the anesthetic with about one minute of carbon dioxide and oxygen. This promotes deeper respiration, washes out the

unabsorbed anesthetic remaining in the lungs, and shortens the period of anesthetic coma. It probably also reduces the incidence of post-operative pulmonary atelectasis.

As soon as the patient is back in bed fluids should be started immediately. The most convenient method is to give continuous proctoclysis of normal saline and 5 per cent glucose. This may be given as rapidly as it can be retained by the patient.

The bladder should be catheterized, and completely emptied every 4 hours. Each specimen is tested for sugar and diacetic acid. When sugar is found a dose of insulin is given proportional to the sugar reaction in the urine. The dose of insulin will ordinarily vary from about 5 to 20 units. If the qualitative sugar test by the Benedict method gives a green reaction, 5 units may be given; for a yellow reaction, 10 units; for a red reaction, 15 units; and for a brown reaction 20 units may be given with safety. This is always a safe procedure to follow while the patient is reacting from the anesthetic, but in severe cases when two or more urinalyses give a brown reaction, the dose of insulin may be doubled or even tripled.

Should the urinalysis be negative for sugar and positive for diacetic acid, the patient must be given more carbohydrate. Within the first 12 hours after operation, or in any case where the patient is nauseated or semi-comatose, this is best accomplished by injections of 10 per cent to 20 per cent glucose intravenously. In some cases there are thermal reactions following the intravenous injection of glucose, but these are not harmful to the patient, and are no contraindication to its use.

As soon as the patient has reacted, and can swallow without difficulty, fluids by mouth should be given as rapidly as the patient can tolerate them. The first fluids to be given by mouth should be hot tea, or water, later clear broth and cereal water. When these fluids are well tolerated and the operation itself does not necessitate a prolonged fast period, the patient may be given carbohydrate fluids. Sixty c.c. of orange juice, and 120 c.c. of milk may be alternated every 4 hours (2 hour feeding) for 5 feedings in 24 hours. This gives a diet of C.90, P.20 and F.20, total calories 620. As soon as the patient can tolerate 2,000 c.c. of fluids daily by mouth the proctoclysis is dis-

continued. When this diet is well taken, and there is need for more food we should give a soft diet consisting of protein 2/3 gram, carbohydrate 2 grams and fat 1 gram per kilo of body weight. This will give a diet approximately 20 per cent below basal requirements. The diet must always be calculated and weighed in the diet kitchen, and any uneaten food must always be substituted in some form of equal food value that is acceptable to the patient.

When the patient is first placed on this diet it is well to test the urine before each meal and at 11 P. M. When sugar is present a dose of insulin is given in proportion to the color reaction of the sugar test. In addition to this the total glucose in the 24 hour urine is estimated, and then we can calculate quite closely the amount of insulin necessary to keep the patient sugar-free on a given diet. As the patient becomes sugar-free the tolerance often improves rapidly and we must be careful to avoid giving too much insulin. As soon as the night urinalysis is sugar-free it is advisable to reduce the evening dose by 5 units, and then depend on blood sugar estimations, or a return of glycosuria as a further guide. Considering the variability of the kidney threshold, the blood sugar is an important guide in this stage of the treatment.

As convalescence advances, and the patient is able to take more food, he may be given a diet calculated to meet his caloric requirements with an appropriate dose of insulin.

#### MANAGEMENT OF POST-OPERATIVE COMPLICATIONS

*Pulmonary.*—We have mentioned the use of carbon dioxide and oxygen following ether anesthesia to shorten the period of post-operative coma and lessen the possibility of pulmonary atelectasis. Caffein sodium benzoate, gr. 5 to gr. 7½ every ½ hour for 2 or 3 doses, may also be used for the same purpose.

*Gastro-intestinal.*—Flatulence is one of the most annoying of the gastro-intestinal complications following surgery on the diabetic. Pituitrin, which is so often used to relieve this condition, is contra-indicated in the diabetic. Pituitrin is remarkably effective in stimulating peristalsis and eliminating flatus, but unfortunately it is equally effective in checking the action of insulin.

Pituitrin always makes the diabetes more severe.<sup>7</sup> The same size dose of pituitrin apparently does not have the same effect on all diabetics, but in general the more severe the diabetes the more deleterious will be the effect of pituitrin. If through some oversight pituitrin has been given, the previously established insulin dosage must be increased, and it is often best to revert to the 4 to 6 hour urinalysis followed by appropriate doses of insulin until the new tolerance of the patient has been determined. It is much better to use a rectal tube, hot stupes, enemas, or even a cathartic to relieve the flatulence.

*Cardio-vascular.*—In an attempt to decrease the incidence of thrombosis and embolism there has been an increasing tendency for surgeons to prescribe thyroid as a routine post-operative procedure. Granting that thyroid is of value in reducing the incidence of post-operative complications, still we must consider some of the other effects which thyroid has on the diabetic organism. Thyroid increases metabolism, diminishes the action of insulin, and depletes the stores of glycogen in the liver.<sup>8</sup> Generally speaking these are the things we desire to avoid in the diabetic. Unless there is an actual thyroid deficiency, the administration of thyroid is contra-indicated in the diabetic. Digitalis, strophanthus, quinidine, ouabain and the nitrites apparently have no untoward effect on the diabetic and may be used as indicated.

Adrenalin is not indicated in the treatment of shock.<sup>9</sup> Comparing the action of adrenalin to that of insulin we note that adrenalin raises the blood sugar while insulin lowers it. Adrenalin depletes glycogen reserves while insulin tends to build them up.<sup>10</sup> However, in their effect on blood and urine phosphates and nitrogen, adrenalin and insulin have a very similar action and hence are not truly antagonistic. In the management of diabetes, adrenalin should be used for only one condition, namely, hypoglycemic shock *where the patient cannot swallow and intravenous glucose is not immediately available.* At best it is only a temporary emergency drug which produces a transient elevation in blood sugar at the expense of the glycogen reserves in the liver. Its use should always be immediately followed by glucose either by mouth or intravenously.

## CONCLUSIONS

1. There are an ever increasing number of diabetics who will need surgical treatment.
2. A knowledge of the diabetic metabolism is essential for the successful management of these cases.
3. Pituitrin should never be administered to the diabetic.
4. Thyroid should only be used in cases of hypothyroidism.
5. Adrenalin should be used only for the treatment of hypoglycemic shock when a

suitable form of carbohydrate is not readily available.

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## AIR EMBOLUS OF RETINAL ARTERY\*

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J. S., aged 33, male, attorney of Grand Rapids, Mich. Has had no sickness that he recalls within the past five years and has not been indisposed by colds during the past winter. The day before coming to my office he spent rabbit hunting about sixty miles north of the city. The day was cold and there was a raw wind blowing, so, at the end of the hunt, a little stimulant was indulged in. The next morning when he left for the office he felt no ill effects from the exposure or the liquid cheer. However, after spending about two hours at his desk, he got up to get something (no violent effort) and about the same moment his collar felt uncomfortably tight, his vision became dim and he felt dizzy. A moment later when the dizziness passed, he discovered a haziness in his field of vision. On closing his right eye, the left showed everything clearly in outline, but on closing the left a curtain seemed to hang before the upper half of his field of vision, but by rotating the eye upward he could see the upper parts of buildings and the heads of people he was looking at.

This condition happened about 11:30 A. M. and by 11:45 he was in my office. At this time the blind area occupied the upper nasal quadrant of the field rather than the whole upper field and remained unchanged until atropin and massage to the eyeball was instituted.

With the history given, a number of conditions suggest themselves. Retinal separation, retinal hemorrhage, spasm of the retinal artery or a moving obstruction of the inferior branch of the retinal artery. The first three causes mentioned may be neglected because the blind area at first covered the upper half of the field and by the time the patient reached my office the blind area involved the upper nasal quadrant, showing that it was growing smaller instead of larger.

*Examination.*—Objectively eyes apparently normal. Reactions normal. Muscle balance unimpaired. Vision and field normal in left. Vision hazy in right with upper nasal quadrant blind to hand movements at a distance of six feet.

The ophthalmoscope made the diagnosis easy without dilating the pupil. The blood column of the inferior temporal branch was seen to be broken, ending abruptly, slightly beyond the margin of the disk where it emerged. Then, for nearly the diameter of the disk the vessel walls were ballooned out, but empty. Beyond this a much darker column of blood than that of the papillar side and also much darker than the venous blood, could be traced peripherally to the minute vessels. The proximal end beyond

this obstruction and the distal end of the column of blood next to it suggested a sort of collar or cuff effect. This was due possibly to the capillary attraction and pressure against either end of the blood column with the color contrast.

I observed this phenomenon for possibly five minutes, but noted practically no change in the position of the obstruction. I then used atropin and light massage to the eyeball and was gratified to find the obstruction moving peripherally and with it the contracture of the blind area until the obstruction reached a bifurcation in the artery. Here the obstruction passed a short way into each one of the branches and it was still present, possibly somewhat contracted, four hours later. The patient at this time was able to map out the scotoma or blind area in the periphery with fingers held like a letter "V."

I did not see the patient again for two days and at this time found no break in the blood column, no peripheral scotoma, but scotomata relative and absolute (patient described them as though looking through leaves of a tree), within the fifteen degree radius corresponding to areas supplied by a small branch given off from the inferior temporal artery near the disk margin. This had ruptured and the hemorrhage had damaged the retinal tissue. A week later, scotomata were still present in this area but the hemorrhage had absorbed.

This is one of those freak cases observed by few ophthalmologists during their lifetime. As to its cause we can only conjecture, as the patient had not been coughing or sneezing or taking forcible breathing exercises. Air entered the blood stream, possibly from a weakened alveolus in the lung, and by chance the bubble found its way into the right central retinal artery and then because of mechanical reasons it entered the inferior retinal artery producing a scotoma of the upper half of the field. It

\*Report of a Case to Grand Rapids Eye, Ear, Nose and Throat Society.

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being forced onward, mechanical reasons again caused it to pass into the temporal, rather than the nasal branch, thus permitting the nasal branch to function and the scotoma to become a quadrant and later a peripheral sector of a quadrant, and its disappearance with the absorption of the air and the re-establishment of the blood stream which provided nutrition for the involved retina.

The scotomata, you note, are permanent where the hemorrhage destroyed retinal tissue by cutting off its blood supply, but in the case of the moving obstruction the retinal cells were not destroyed by the temporary loss of normal nourishment produced during the passing and final absorption of the air embolus and the return of its normal blood supply. Medical Arts Building.

## DEEP SUPPURATION IN THE PHARYNX AND NECK AS IT CONCERNS THE LARYNGOLOGIST\*

(ABSTRACT OF LECTURE AND LANTERN DEMONSTRATION)

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A closer study of this subject reveals that the laryngologist is intimately concerned with the various forms of suppuration in the pharynx, neck, and even the mediastinum. The otolaryngologist usually sees these cases in their incipiency, while the general surgeon sees them in their fully developed state. The laryngologist is, therefore, in a better position to follow the course of the development of these infections and to suggest or carry out the final treatment. Deep suppuration occurs in the form of peritonsillar abscess, retropharyngeal abscess, parapharyngeal infection, septic thrombophlebitis of the veins of the neck, cellulitis of the neck, Ludwig's angina, and retro-esophageal mediastinitis.

The laryngologist by his training is an endoscopist accustomed to examine the inside of the mouth, pharynx, or even the bronchi, but as a rule he does not sufficiently consider the anatomy of the surrounding structures. The relationship may be compared to that of mastoid disease to intracranial complications. The otologist of today is prepared to follow and treat suppuration in the cranial cavity, whereas some years ago he would have hesitated.

### ANATOMY

The laryngologist should devote more time to the study of the anatomy of the neck and mediastinum. He should be familiar with the triangles of the neck, especially the submaxillary, the superior and inferior carotid triangles. The fascial planes of the neck are always a great bugbear to the medical student, but for practical purposes their study can be simplified.

The modern anatomist tells us that these fascial layers are more seeming than real. This may be true anatomically speaking,

but, surgically, they are very important because they constitute inclined planes and pockets along which infection may travel.

Very briefly stated, there are three main fascial layers in the neck—in front of the spinal column there is the firm prevertebral fascia extending laterally to unite with the second layer, the pretracheal fascia, and also with the outer or first layer which completely invests the neck. Where these three layers come together they form the carotid sheath for the neuro-vascular bundle which Mosher has called the Lincoln Highway, since infection very frequently descends in this sheath. The space between the prevertebral and pretracheal fasciae is sometimes called the visceral compartment, containing as it does the esophagus, trachea, and thyroid gland. These latter structures physiologically move up and down in this compartment like a piston in a cylinder, and infection may, therefore, spread in the visceral compartment. The prevertebral fascia tends to prevent the extension forward of infection which originates in the retropharyngeal lymph glands or in spinal caries. Owing to the firm consistency of this fascia, such infection may extend downward into the posterior mediastinum.

### PERITONSILLAR ABSCESS

Peritonsillar abscess usually extends from some of the crypts of the upper pole of the tonsil to the supertonsillar fossa and thence

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into the soft palate. The latter may be considered as being made up of two superimposed layers of muscle between which there is a layer of mucous glands extending clear across the free border of the soft palate. It is very likely that the pus separates the layers of muscle and extends into these glands.

As to the technic of opening a peritonsillar abscess, St. Clair Thompson's is probably the best. He draws a vertical line along the free border of the anterior pillar and a horizontal line along the base of the uvula. The incision should be made vertically in the inferior external quadrant where these two imaginary lines cross. The knife should be introduced directly from before backward because the internal carotid artery is situated about 1.5 centimeters behind and external to the tonsil. It is very important in making this puncture to have the patient's head held rigidly so that he cannot twist it to either side, for it has been shown on the cadaver that if the head be rotated the carotid can be brought out of line and nearer to the knife. It is better to nick the tissues and then introduce a blunt instrument and spread it. Hemorrhage from the internal carotid usually constitutes a fatal complication of peritonsillar infection and may occur spontaneously without any previous surgical intervention. Post-mortem examination in such a case usually reveals a necrosis of the arterial wall.

#### RETROPHARYNGEAL ABSCESS

The pharynx may be likened to a musculo-membranous funnel extending from its cranial attachments above and terminating in the esophagus below. The funnel is defective in its anterior portion where it opens into the nose and mouth. From within outward the pharynx consists of four coats, *i.e.*, a layer of mucous membrane, a stratum of fibrous connective tissue called the pharyngeal aponeurosis, a muscular coat formed by the constrictors, which in turn are invested by a layer of deep cervical fascia known as the bucco-pharyngeal fascia. (In order to open a post-pharyngeal abscess through the mouth all of these coats must be perforated.)

In the retropharyngeal space near the junction of the posterior and lateral pharyngeal walls on either side one or two lymph glands are always present in the infant. These glands tend to atrophy after infancy or early childhood. Since retropharyngeal

abscess usually occurs from infection and breaking down of these lymph glands, we have an explanation of why retropharyngeal abscess occurs in infancy and very seldom in later years.

These lymph glands may become infected through afferent lymph channels extending from the pharynx, the nasopharynx, the interior of the nose, and the paranasal sinuses. Rarely the glands become infected by extension from an otitis media or a mastoiditis. Given an infant with a history of increasing dysphagia accompanied by more or less inspiratory dyspnea, the presence of a retropharyngeal abscess should be suspected at once. The presence in the pharynx of a visible and palpable, fluctuating swelling confirms the diagnosis. Frequently the mass cannot be seen but on palpation it has the consistency of a tennis ball. It should be borne in mind that the retropharyngeal lymph glands are frequently infected in influenza without breaking down.

Upon the discovery of a retropharyngeal abscess, it should be immediately drained by an opening made through the pharyngeal wall. No anesthetic should be used. Prior to opening the abscess, the child should be held with its head lower than the body, and, if possible, a suction pump should be in readiness to prevent aspiration of the pus into the bronchi. The operator should open the abscess by forcing a closed hemostat through the pharyngeal wall into the abscess and then opening the hemostat. If a knife be used, there is always danger of injuring a blood vessel or of the operator infecting his finger.

In those cases of retropharyngeal abscess secondary to spinal caries, the abscess should be reached by external drainage or aspiration in order to prevent the contamination of the abscess with the buccal flora. A retropharyngeal abscess which tends to point externally, that is, one which is extended into the parapharyngeal space, should also be opened externally. (See next paragraph.)

#### PARAPHARYNGEAL ABSCESS

The parapharyngeal space or the pharyngomaxillary fossa is of great surgical importance. In a horizontal section at the level of the tonsil it is triangular in shape. Mesially it is limited by the pharyngeal fascia which encases the pharynx; posteriorly by the prevertebral fascia and laterally by

the parotid fascia and the horizontal ramus of the lower jaw. Vertically it extends from the base of the skull downward and is continuous with the carotid sheath.

In removing the tonsils the laryngologist frequently encounters an elongated styloid process external to the tonsil bed, and, anatomically, this process with the muscles and fascia attached thereto subdivides the parapharyngeal space into a prestyloid and a retrostyloid compartment. The latter contains the great vessels and nerves and some lymph glands, so that infection in this space occupies a dangerous area.

Infection of the parapharyngeal space usually occurs secondary to peritonsillar or retropharyngeal infection. It may also occur after tonsillectomy under local anesthesia from infection carried by the needle. It also occurs for similar reasons after tooth extraction under block anesthesia.

Clinically, the most characteristic sign of infection in this region is swelling or fluctuation at the angle of the jaw. There may also be a slight inward protrusion of the lateral wall of the pharynx and some difficulty in opening the mouth.

#### Treatment:

In the presence of pus in this space, the drainage should be by an external incision following the angle of the jaw and usually by a blunt dissection.

#### SEPTIC THROMBOPHLEBITIS

In recent years a great deal of attention is being given to septic thrombophlebitis originating in the parapharyngeal space. The veins which run through this space (tonsillar, posterior facial, and internal jugular) may become infected from a parapharyngeal abscess. One school is of the opinion that the thrombosis is of primary origin, but at the present time most pathologists believe that a cellulitis followed by periphlebitis and endophlebitis accounts for the thrombosis. So called septic sore throat is probably a manifestation of this disease. Claus, of Berlin, reports on a series of 28 cases upon all of which he operated, and of which 14 recovered and 14 died. The symptoms closely resemble those of thrombosis of the lateral sinus secondary to mastoiditis, that is, the patient, several days after a tonsillitis or quinsy, develops chills, fever, leukocytosis, and signs of pleurisy or minute emboli in the lungs.

The treatment of this condition is sur-

gical and consists in opening and draining the parapharyngeal space through an external incision with exposure of the internal jugular common facial and posterior facial veins. If the veins are found thrombosed, they should be ligated and removed, and the exploration should be carried as near the tonsil bed as possible. It may be necessary to cut across the posterior belly of the digastric and the stylohyoid muscle in order to reach the primary source of infection.

#### DEEP CELLULITIS OF THE NECK

Deep cellulitis of the neck frequently occurs along the carotid sheath as a result of infection of the lymph glands attached to the sheath. Infection of the carotid sheath should be treated by exposure of the sheath, removal of the infected glands, and drainage. Marschik has devised a technic whereby the incision from below upward is made parallel to the anterior border of the sternocleidomastoid muscle. He introduces an iodoform pack at the lower angle of the incision to prevent infection downward into the mediastinum, and then proceeds to open and drain the infected area above.

Another form of cellulitis may occur in the submental region: the so-called Ludwig's angina. The latter disease is usually found in elderly men and ordinarily originates from infection about the teeth in the lower jaw. The infection may be pocketed either above or below the mylohyoid muscle, which extends as a diaphragm between the horizontal rami of the lower jaw. When infection is above the muscle, it may sometimes be relieved by an incision inside the mouth, but when it occurs as a brawny swelling between the chin and the hyoid bone, deep incisions parallel to the lower jaw and in the middle line of the neck must be made. Some French surgeons prefer to make these incisions with the actual cautery. If edema of the larynx threatens, a tracheotomy should not be deferred.

#### RETRO-ESOPHAGEAL MEDIASTITIS

The bronchoscopist is concerned with infection about the esophagus. Infection of the posterior mediastinum may result from the presence of foreign bodies in the esophagus, from perforation of the esophagus in attempting to remove such foreign bodies, or from bullet or stab wounds. It may also occur secondary to spinal caries. The symptoms are those of extreme dysphagia,

fever, pain, and sometimes tenderness and swelling at the root of the neck. Perforation of the esophagus may be accompanied by interstitial emphysema at the root of the neck due to the escape of air from the esophagus into the surrounding cellular tissues. The lecturer in several cases of perforation of the esophagus has been able to demonstrate by X-ray the presence of these air bubbles in the tissues surrounding the esophagus when there was no palpable emphysema in the neck. At the same time the X-ray shows the marked retro-esophageal swelling with displacement of the esophagus forward. These two X-ray signs are of great importance in the early diagnosis and treatment of retro-esophageal infection.

With increasing pain, fever, and swelling,

together with signs of emphysema, as a rule the only hope of saving the patient is by exposing the esophagus in the neck (or possibly by an internal esophagotomy). Dr. Furstenburg, of Ann Arbor, has devised an ingenious operation for the relief of mediastinal infection. Incision is made at the root of the neck, preferably on the right side. The trachea and esophagus are exposed, and a blunt dissection is made behind the esophagus, whereupon a rubber catheter is passed behind the esophagus. A suction pump is attached to this catheter, and by repeated or continued aspiration he has been able to save a number of cases.

In some cases not accessible through the neck the only hope for the patient is by a posterior mediastinotomy, which should be performed by a thoracic surgeon.

## SARCOMATOUS TUMOR OF THE TESTICLE AND CASE REPORT

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Neoplastic disease of the testis is a rather uncommon condition. Despite this rarity, considerable interest has been focused on the origin and pathology of the Wilms tumor. Cancer of the testis comprises about one-fourth of the malignancy of the genito-urinary tract and also has been variously estimated to include from four to five per cent of all cancers. In the Mayo Clinic, fifty cases were reported among three hundred thousand patients. London Hospital reports sixty-five cases in one hundred and ten thousand male admissions. McKenzie, D.M., reported thirteen cases from 1920 to 1930.

Benign tumors of the testicle are rare affections, but malignant neoplasms are more common, especially in youth, than is generally recognized. They metastasize by the way of the blood vessels and lymphatic channels. This process occurs very early and usually appears first in the glands along the spermatic vessels, the lumbar and retro-peritoneal glands; second, in the supra-clavicular glands through the common thoracic duct. The lungs, liver, kidneys, or spleen may become involved. Injury and heredity are considered to be the greatest etiological factors of this disease. The right testis predominates over the left, but bilateral growths are extremely rare, as are also relatively pure carcinomas. But sarcomatous or mixed types are probably more frequent.

The diagnosis of malignant disease of the testis is usually made by a process of exclusion, such as gonorrheal epididymis, syphilis (gumma), tuberculosis, hydrocele, hematocele, scrotal hernia, etc. Clinically, in cases where there is a clear history of the later conditions, the diagnosis will present no difficulties. What is the nature of the neoplasm (Wilms tumor)? Whether benign or malignant, the latter belong mostly to the sarcomata proper. They grow very early and rapidly, spreading along the lymph channels and in the blood vessels. The patient gives history of mild or severe injury. Sarcomata are most common in children before the age of ten, and again in adults between the ages of thirty and forty.

### CASE REPORTS

*Case 1.*—D. H., age 30, white. Stated that about three years before admission to the hospital, he had been struck on the right testicle by a ball. But that apart from the severe pain, and some swelling at the time, he had no ill effects. Two years later he

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noticed a small lump behind and below the right testicle. This was quite painless but enlarged steadily. He had no other symptoms and appeared to be in perfect health. In fact, since his accident, has been married and has two normal children. This swelling had gradually increased but during the last six months had grown much more rapidly, particularly the last two months.

The patient presented himself for examination because of the discomfort from dragging and slight

ing metastasis in the inguinal lymph gland, and mediastinum.

**Pathology.**—The specimen consisted of a large, rounded, well encapsulated mass, about the size of a small grapefruit, with the cord attached. The cut surface showed that the testis, epididymis and the lower part of the spermatic cord were completely replaced by neoplastic tissue, which had a white, lobular appearance. There were several small areas of hemorrhages, a slight effusion into the thickened



Fig. 1. Case 1. Photograph of a gross specimen of an embryonal sarcoma of the testicle.



Fig. 2. Case 1. Photograph of gross specimen shown in Figure 1, cut open, showing area of degeneration and hemorrhage.

pain in the right groin, but there had never been any pain in the testicle. The physical examination of the head revealed no abnormality. The pupils were equal and reacted to light. There was nothing remarkable about the nose, throat, and superficial lymph glands. The heart and lungs were within normal limits. The abdominal wall was below the costal margin. Some tenderness over the lower abdomen. Liver and spleen not enlarged. The region of the right side of the scrotum revealed a large pyriform mass extending to the external abdominal ring. The veins of the scrotum were very large, but the skin was freely movable over the tumor. Neither the testicle nor epididymis could be differentiated. No testicular sensation was elicited. The mass was opaque to transillumination. No enlargement of the lumbar or inguinal lymphatic glands. The cord was normal and rectal examination negative. Laboratory findings: urine, negative. Blood studies as follows: hemoglobin 85 per cent, red blood cell count 4.9, white blood cell count 11,000, polymorphonuclear leukocytes 80 per cent, lymphocytes 14 per cent, basophiles 2 per cent, eosinophiles 3 per cent, large lymphocytes 1 per cent. The Kahn test was negative.

The diagnosis of neoplasm was made and an operation was advised. This was performed on November 1, 1930, an orchidectomy with high division of the cord being successfully carried out. The patient recovered from the operation. On January 19, 1931, he reported that he had gained 27 pounds in weight and was feeling good. On February 28, 1931, he complained of pain in the left inguinal region, cough, and has lost 15 pounds. He is show-

tunica vaginalis and lower part of the cord. There were many areas of degeneration and some caseations, especially at the center of the mass.

**Microscopical Examination** (by G. L. Bond.)—The sections from the mass removed from the testicle showed a widespread actively growing embryonic cell sarcoma, invading all parts of the mass. There were many areas of necrosis, and a few areas of hemorrhage. The tumor had already invaded several large veins.

**Diagnosis.**—Embryonic cell sarcoma of the testicle. This tumor was highly malignant and has probably already metastasized through the blood stream.

**Case 2.**—H. F. The patient complained of swelling of the left testicle, and inability to write with the right hand. His present illness disclosed that the enlargement of the right testicle began six months ago and had assumed the size of a large orange, very hard, painless, and not tender. About September 15, 1927, while playing cards, the right hand and fingers became stiff and he was unable to form words clearly. After fifteen weeks he recovered from his speech difficulty, but was unable to write legibly with his right hand. His past history revealed that thirty years ago while lifting, he noted a sharp pain, and lump in the left inguinal region, which increased in size, and was reducible into the abdomen, and for which he wore a truss for five or six years.

Physical examination revealed a well developed, obese, adult male of fifty-seven years, lying restlessly in bed, irrational and disoriented at times, with a slight slurring of speech, apparently in no pain. Blood pressure was 200/95. The heart and

lungs were essentially negative. The left external inguinal ring admitted the thumb with ease, gave a definite impulse on coughing and a lemon sized doughy mass was protruding from the inguinal ring, which was easily reducible into the abdomen. The right testis was enlarged to about the size of a large orange, of stony hardness, painless, not tender, did not transilluminate light. The right biceps and knee jerk were increased. Blood Kahn was four plus. Urine negative. Diagnosis was made as right hemiplegia and gumma of the right testis, which did not respond to the anti-syphilitic treatment.

The patient was operated on November 2, 1927, in the University of Michigan Hospital. The department of pathology reported: malignant teratoma of sarcomatous architecture. The patient died on November 17, 1927. Autopsy finding revealed: Luetic aortitis. Multiple areas of softening of the brain. Metastatic retroperitoneal lymph glands on the right side.

#### CONCLUSIONS

1. Malignant neoplasm of the testis is a grave disease. Prognosis is poor, even after the operation and deep X-ray and radium therapy. Mortality, 82 to 95 per cent.

2. The patient sees the physician when

the metastases have already made their appearance.

3. Metastasis through the blood vessels and lymphatics very early, even before clinical evidences appear.

4. The treatment that offers hope, if any, is early diagnosis and operation, followed by deep X-ray therapy.

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### A DISCUSSION OF THE HISTORY OF SYMPATHETIC SURGERY\*

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The existence of the Sympathetic Nervous System as a more or less separate entity has been known and discussed for many years. The work of Gaskell, however, helped to bring out many points of interest which had hitherto attracted little attention. As Langdon Brown has stated, "to read an account of the Sympathetic System before Gaskell is like reading a description of the circulation of the blood before Harvey." Gaskell was the first to make clear the direction of impulses in the Sympathetic Chain. On the other hand, many points were not clarified in Gaskell's original description and it remained for Langeley, Cannon, Crile, Ranson, Kuntz, and many others to add to and to work out to more completeness some of the generalizations put forth by Gaskell.

It is unquestionably true that Gaskell was a pioneer in this field and was the first to demonstrate that the nerve fibres which flowed from the spinal cord into the sympathetic chain were of smaller calibre than the nerves to the skeletal muscles. Having determined this he was able to show

that there were fibres with visceral functions in the cranial and sacral nerves which subserve the functions of organic life, and which were not under the control of the will. Many names have been suggested to include all such visceral fibres, the one offered by Langeley probably being the one which is most universally accepted, namely, the autonomic nervous system, although we find the words sympathetic, vegetative, involuntary and visceral used quite extensively in the literature.

The whole of the autonomic nervous system, then, may be divided into two component parts, the true sympathetic, representing the thoracico-lumbar outflow, and the para-sympathetic, including the outflow through the cranial nerves from the mid-brain and medulla as well as those from the sacral region.

The first known attempt to relieve

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patients sufferings from disease by performing operations upon the sympathetic nerves was made by Alexander about forty years ago, when he removed the superior cervical sympathetic ganglia in a patient suffering from epileptic attacks. According to Jonnesco a similar operation was carried out in 1896 upon a patient with epilepsy and exophthalmic goiter, although he himself did not perform that operation. In 1899 Jaboulay suggested treating certain pain syndromes by elongation of the periarterial sympathetic plexuses which, according to Leriche, was not given the attention it deserved. Jaboulay is accredited with having developed the operation of periarterial sympathectomy. His results were only partly successful when applied in disease with painful and trophic changes in the extremities. About 1900 Francois Franck suggested to Jonnesco that he might be able to successfully treat angina pectoris by removal of the cervico-thoracic ganglion, but it was not until sixteen years later that Jonnesco actually performed this operation for this condition.

In 1913 Leriche reported his first periarterial sympathectomy, which he chose to call "Elongation and Section of the Perivascular Nerves." He brought back into use Jaboulay's procedure, which had temporarily been discarded. The object of his operation was to deprive the periphery of its sympathetic control and he attempted to do this by denudation of the periarterial sympathetic plexuses. Subsequent reports by Leriche are interesting in that some failures or partial successes are recorded and for which, as a rule, he makes an unsatisfactory explanation. In his latest work he has adopted ramisection in addition to his former procedures in cases that do not respond favorably to periarterial stripping.

Following the earlier reports of Leriche many surgeons throughout the world attempted operations of a similar nature for various conditions. While some men met with considerable success, others report very little if any permanent improvement. The explanation for the failures with the use of Leriche's operation is readily found when we consider the work of Kramer and Todd, which appeared in 1914. The subject of their investigation was "The Distribution of Nerves to the Arteries of the Arm with Discussion of the Clinical Value of Results."

Their researches threw considerable doubt on the anatomical and physiological basis for periarterial sympathectomy, as they showed that the sympathetic nerves supplying the vasoconstrictors were given off at irregular intervals from the segmental nerves and did not follow the blood vessels, as previously supposed. The work of Potts on the lower extremities showed the same condition to exist.

Jonnesco, in 1921, reported his case of cervical sympathectomy for angina pectoris, which was operated upon five years before, but who had gone to war and had not been observed during all of that period. It is of extreme value to note that, in spite of the hardships of war, no anginal attacks occurred subsequent to the operation. In February, 1923, Coffey and Brown showed that the same result that had been obtained by Jonnesco could be gotten by cutting the sympathetic trunk and superior cardiac nerve below the superior sympathetic ganglion, or by the removal of the ganglion itself, while Jonnesco had removed the stellate ganglion in order to secure relief from the anginal pain.

In the early part of 1923 Muller's article appeared in which he discussed the relation of sympathetic surgery to many conditions, among which were angina pectoris, Raynaud's disease, causalgia, and other disturbances. In October of the same year Bruening presented a discussion of the results obtained in a series of ten cases in which the stellate ganglion was removed independently or in conjunction with the interruption of all sympathetic tracts in the neck. His list included angina pectoris, Raynaud's disease, scleroderma, facial hemiatrophy, for the decrease of blood pressure in hypertension and for the production of hyperemia of the brain in Parkinson's disease following lethargic encephalitis. The relief in angina pectoris had persisted unchanged for a period of nine months at the time his article was published. In Raynaud's disease and scleroderma he reports good results, the best, he feels, being obtained with ganglion extirpation as opposed to periarterial neurectomy. In the patient with scleroderma, in addition to removing the stellate ganglion, the entire sympathetics of the neck were extirpated. Marked clinical improvement followed this procedure. In the case with facial hemiatrophy, following complete removal of the

sympathetic tracts in the right side of the neck, pulsation returned in the temporal artery of that side; in fact, was stronger than on the unoperated side. Bruening is of the opinion that this latter case is further proof of his former assertion that "pathological increase of sympathetic tonus leads to tissue atrophy." The results in the cases of hypertension were not satisfactory, only a very weak temporary response being noted, which is in accordance with the results of other investigators. No appreciable benefit was obtained in those patients with Parkinson's disease, which is also in keeping with the unfavorable outcome as reported by other surgeons. The application of cervical sympathectomy to trophic conditions of the arm is also discussed, extirpation of the stellate ganglion apparently giving better results than perivascular stripping. The seriousness of the dissection in the neck is pointed out by Bruening, and he states that its use had better be employed in such conditions as scleroderma and Raynaud's disease, and in the hands of one familiar with this area in detail.

In December, 1924, the work of Royle and Hunter was published, both articles appearing in American journals at the same time. Their researches were in part carried out simultaneously although they worked independently for the most part. Hunter was interested in establishing a basis for sympathetic ramisection in spastic paralysis, and from his experiments on animals he concluded that "the basic principle of the operation of ramisection is that it removes plastic tone; that it is only indicated when plastic tone is in excess and hampers the voluntary activities which have persisted in spite of the central lesion; that a study of the nature of the spasticity of the spastic limbs and an estimate of the anatomical defect of the central mechanism responsible for the condition must go hand in hand, and only when the physiological indications are discoverable is the operation to be undertaken." Royle's work was carried out in order to determine whether or not it would be possible to relieve unfortunates who had received gun-shot wounds of the cranium during the world war and who had developed residual spasticities. He first developed the operation of ramisection by using experimental animals and later applied it to human patients. In his report he describes in detail his experi-

ments, first, on the production artificially of spastic paralysis in animals before removal of the sympathetic trunk; second, the effect produced by the removal of a unilateral sympathetic trunk without any previous operative procedure; and, third, the effect of removal of the sympathetic trunk or ramisection in decerebrate animals. Convinced from his observations and results that a reduction in plastic tone was to be expected following sympathetic section he applied his operation of ramisection in the lumbar region to a patient with spasticity which had developed after a war brain injury. From his reports, only partial relief was obtained.

In discussing various phenomena noted subsequent to operation Royle made the observation that a distinct pink color of the skin as well as a rise in surface temperature was noted on the side of ramisection. While this observation and notation of the fact apparently did not impress him at the time as being of extreme importance, in reality it formed the basis for additional work on the part of other investigators and which ultimately led to a fairly definite surgical control of vasospastic disease.

Within a few months after Royle's first report, Adson performed his first transperitoneal abdominal sympathetic ganglionectomy and ramisection for spasticity; and in March, 1925, applied the operation in a patient suffering from Raynaud's disease, largely because his own observations, as well as Royle's, had convinced him that increased peripheral circulation and elevation in surface temperature would follow this procedure. Adson approached the sympathetic trunk from the mid-line rather than from the lateral lumbar area, as Royle did, and removed the second, third and fourth lumbar ganglia with the intervening trunk, as well as to divide all rami in this area. At first it was thought advisable by Adson to carry out periarterial neurectomy in addition to ganglionectomy and ramisection, the former procedure, however, being dropped as soon as it was discovered that the same clinical result was obtained without its use. A great deal of Adson's earlier researches and many of his later investigations have been done in association with Brown and Rowntree, and they together have been responsible for most of the earlier work that was done in this connection at the Mayo Clinic. The development of the vasomotor index and vascular

studies made before and after sympathetic ganglionectomy and ramisectomy are the splendid result of their combined efforts. More recently, Learmonth, Markowitz and Braasch have entered the field, and their work will be referred to later. Adson's abdominal operation has been used quite extensively since its original appearance, and many reports have been made from time to time in the literature.

In 1924, Henry brought forth what he described as a new method for the removal of the left cervico-thoracic ganglion in the treatment of angina pectoris. A preliminary report on this procedure had been read by him before the Royal Academy of Medicine in Ireland on December 15, 1922. Due to the fact that the anterior approach used by Jonnesco presented many hazards, and also receiving a suggestion from Sir William Wheeler on the possibility of a posterior approach, Henry set about to develop a posterior intrathoracic approach to the region of the stellate ganglion. The details of his technic are given in his monograph.

Resection of the cervico-thoracic and lumbo-sacral cord in the treatment of trophic and gangrenous affections of the limbs was advised by Diez in his article which appeared in September, 1925. Twenty cases were described by him, three of which were Raynaud's disease, twelve Buerger's disease, two causalgia, one acute tropho-nephrotic gangrene, one habitual acrocyanosis from arteriosclerosis, and one a tabetic perforating ulcer of the foot. Lumbo-sacral resections were done in seventeen cases and cervico-thoracic in three cases. In all, there were five failures, three improvements and twelve cures reported. His conclusions as to what is to be expected from sympathetic section in these cases are similar to those advanced by others previously, and he states that the results will be of greater intensity and more lasting if ganglion and cord resection is done than if the periarterial neurectomy of Leriche is performed.

Davis and Kanavel, in June, 1926, reported a series of five cases of vascular disturbances of the extremities for the relief of which they performed sympathectomy. They had previously reported their technic for the lumbar operation in October, 1924, at which time Adson also described his operation, both descriptions being given before a group of American surgeons which were being addressed by Royle and Hunter. In

Davis and Kanavel's series they listed one case of erythromelalgia, and the question was raised by Adson as to whether or not this case ran true to type. Inasmuch as erythromelalgia is a disturbance associated with periodic attacks of painful, red extremities and caused by extreme vasodilation, it is reasonable to assume that it would not react favorably to the abolition of vasoconstrictor control. In this same report of June, 1926, an anterior approach is described which was used in the cervical operations, the inferior cervical and stellate ganglia and the intervening trunk being removed. In the lumbar operations both the mid-line transperitoneal and the lateral lumbar approaches were used, the authors preferring the latter if only one side is to be operated and the former when both sides are to be attacked at the same time. In this instance, as in Adson's lumbar operation, the second, third and fourth lumbar ganglia, with the intervening trunk, were removed. In another article published at the same time Davis and Kanavel recorded their observations on the effect of sympathectomy in spastic paralysis. While they stated that histologic evidence points toward dual innervation of striated muscle, they were unable to confirm Royle and Hunter's work on spastic paralysis. They agreed with Royle that no result was to be expected in patients with paralysis agitans, Parkinson's disease and degenerative or traumatic lesions of the spinal cord, but differed with him in stating that, from their work, they were unable to relieve patients suffering from Little's disease or from cerebral hemiplegia due to vascular lesions.

Early in 1927 Wade and Royle suggested a new method of operative treatment for Hirschsprung's disease, offering, at the same time, an explanation of the technic which they used, as well as the results of their operations. Wade reported two cases, one treated by extirpation of the colon and the other by ramisectomy. In the former dilatation of the ileum occurred close to the anal sphincter; in the latter the immediate result was good, which bore out the view that the failure of the sphincter to relax is due to over-action of the sympathetics. In this operation the laterally directed rami of the second, third and fourth lumbar nerves were not disturbed, thus differing from the ordinary ramisection of Royle. Later, in the same year, Royle's article appeared on the surgical treatment of Raynaud's disease and similar

conditions. For the first time he mentioned the significance of his earlier observations on color and heat changes in the extremities following section of the sympathetic tracts. He criticizes Leriche's periarterial neurectomy on the basis of Kramer and Todd's work, and the so-called "mutilating" operations of Adson and Brown, and Davis and Kanavel, stating that ramisection with trunk section is all that is necessary. Royle has added here trunk section, which he formerly did not use. Adson, on the other hand, has made no material changes in his operation since his original description, and feels that he is justified in carrying out the extensive resection in order to be sure that all tracts are definitely interrupted.

In March, 1927, Rowntree and Adson made their first report on the treatment of certain types of arthritis with lumbar sympathectomy, their first operation being done in June, 1926. Two years later the patient herself stated that she was completely cured of arthritis "in the legs." About this time, however, the arms became involved and in November, 1928, a cervico-thoracic sympathetic ganglionectomy was performed for relief of the upper extremities. Explanation of this operation will be given later. The usual reactions expected to follow sympathetic ganglionectomy occurred in this case and, at the time of dismissal, the patient is reported to have been markedly improved. Since that time a number of similar cases have been examined and operated upon by Adson and his associates with excellent results in those with definite symptoms of vasospasm.

Judd and Adson, in September, 1928, published their observations and conclusions on ganglionectomy and ramisection in Hirschsprung's disease. They cited two cases, and conclude from the favorable results obtained that the desired effect is produced by a reduction of sympathetic inhibition coming from lumbar rami communicantes through the hypogastric and pelvic plexuses. Their first case was operated upon in June, 1927, when a left unilateral lumbar ganglionectomy and ramisection was done, while the second patient was treated in December, 1927, a bilateral resection being carried out on account of the more extensive dilatation of the colon. Although Wade and Royle performed only a special ramisection in their case, Judd and Adson used the

regular lumbar ganglionectomy and ramisection with the removal of the intervening trunk. No ill-effects are reported on account of the larger operation.

While surgical procedures upon the lumbar sympathetic chain were apparently giving quite satisfactory results when thoroughly carried out and applied in proper cases, this was not the case with operations performed for the relief of the various conditions involving the upper extremities. For this reason many surgeons and clinical investigators attempted various modifications of the current approaches to the cervical sympathetics. The operations of Leriche and of Jonnesco were not proving satisfactory in the hands of all surgeons. On account of this fact, and after several failures with their use, Adson developed a posterior intrathoracic approach to the cervico-thoracic region in order to be able to interrupt all impulses to the brachial plexus with the greatest ease and safety. His first operation through this approach was performed on July 31, 1928, in a patient with Raynaud's disease, the right side only being operated upon, the left side being used as a control. The results were so satisfactory that on September 11, 1928, the left side was operated, and with equally good success. The Adson posterior operation consists of a mid-line approach through the lower cervical and upper thoracic area posteriorly, modified after the method of Henry described in 1924, with the eventual removal of the cervico-thoracic and second thoracic ganglia, the division of the rami in this area, and the section and complete removal of the sympathetic trunk from above the inferior cervical ganglion to below the second thoracic ganglion. Adson has performed this operation upon a fairly large number of patients, either independently or in conjunction with the abdominal operation, six to eight weeks, or longer, being allowed to intervene between the two procedures. While the original operation was done on one side at a time, the later procedures were carried out bilaterally in most instances. Patients with Raynaud's disease, Scleroderma, Buerger's disease with associated vasospasm, non-specific polyarthritis of vasospastic type, Little's disease with normal mentality, Hirschsprung's disease without obstruction of a mechanical nature, causalgias, and certain atypical neuralgias of the face have benefited by this

operation as well as by the abdominal operation where it is indicated. Many reports concerning this work have appeared in the literature within the past two years.

About the same time that Adson was perfecting his posterior intrathoracic approach, Royle, not satisfied with the old anterior exposure, developed a new anterior operation which he now uses in the surgical control of spastic and vasospastic disturbances involving the upper extremities. In addition to the ramisectomy which he formerly used, Royle has added trunk section in the new procedure. In the same year Fulton reported a case of Raynaud's disease in which he failed to secure relief in the upper extremity by the Royle ramisectomy, while good results were obtained in the same patient in the lower extremity by ramisectomy and division of the trunk. Here again, we see the gradual transition from simple ramisectomy to removal, or at least section, of the sympathetic structures.

In April, 1928, Frazier published his results on the treatment of atypical neuralgias of the face by operations upon the cervical sympathetic chain. He was not encouraged, and the outcome, with the exception of one case, was not satisfactory. Flothow, on the other hand, in October of the same year reported complete relief of pain in a patient with pain in the fifth nerve area, who had not responded to division of the sensory root of the gasserian ganglion, by cervicothoracic ganglionectomy and ramisectomy with removal of the intervening trunk. Peet concludes that failure to secure relief in Frazier's cases is probably due to the fact that the pain was central in origin and transmitted over the trigeminal nerve and that, for that reason, his patients should not have been subjected to operations upon the sympathetic chain. The possibility of incomplete interruption of sympathetic fibres by the cervical approach, as used by Frazier, would also have to be taken into consideration in explaining the negative results. It is possible that, had Frazier used the posterior intrathoracic approach of Adson, as Flothow did, the outcome, in at least a portion of his series, would have been more favorable.

The work of McClintic and Seymour, which appeared in January, 1929, is very interesting. They report what they call a new technic in the surgical treatment of Raynaud's disease. They cite one case in which the cervical sympathetic ganglia and

trunk, including the stellate ganglion, were removed on the right side on December 3, 1926, and the rami from the stellate ganglion to the brachial plexus severed on the left side on February 11, 1927. A satisfactory outcome is reported in both instances. While the history and findings, as reported by them, suggest that the patient did not have Raynaud's disease, the fact that relief was obtained from operation would indicate that they were probably dealing with sympathetic pain, and that a certain amount of vasospasm was present before section of the sympathetic fibres. McClintic and Seymour, in this paper, likewise favor ramisectomy to periarterial neurectomy, which is in keeping with the general trend of surgery of this type, although, more recently, McClintic has performed periarterial alcoholic injections of the carotid arteries for the relief of epilepsy, post-encephalitic manifestations and other things. However, it is the opinion of some men that McClintic's latest work has reached print too soon for a proper evaluation and interpretation of it. It has also been suggested that perhaps some cases of convulsive seizures treated by the alcoholic injection method may have been purely hysterical or functional disorders. If this is true, the relief, in at least a part of those cases, is easily explained.

On June 1, 1929, Learmonth and Markowitz submitted their first report on "Studies on the Function of the Lumbar Sympathetic Outflow," and which was published in August of the same year. The title of their first experiments was "The Relation of the Lumbar Sympathetic Outflow to the Sphincter Ani Internus." This study was undertaken to prove the rationale and efficacy of lumbar sympathectomy in congenital idiopathic dilatation of the colon. They conclude that the lumbar sympathetic outflow has the function attributed to it by Gaskell, and they summarize as follows: "The sphincter derives a certain amount of motor innervation through the lumbar sympathetic outflow; the majority of the fibers concerned are postganglionic fibers arising in the inferior mesenteric ganglion; a few motor fibres are not interrupted in the inferior mesenteric ganglion," and "inhibitory fibers from the lumbar sympathetic outflow pass to the sphincter by way of the hypogastric nerves." This work serves to justify the operation for megacolon as performed at the Mayo Clinic. In September, 1930, a

second report was made on "The Influence of the Lumbar Colonic Nerves on the Distal Part of the Colon." These experiments, like the preceding ones, were carried out on dogs. The final result of their observations in the second undertaking was to the effect that "the lumbar colonic nerve exerts a constant inhibitory influence on the musculature of the distal part of the colon; section of the lumbar colonic nerve invariably leads to an immediate increase in intracolonic pressure," and "section of the lumbar colonic nerve may lead to an increase in the amplitude of the contractions of the colon."

One of the later developments in connection with surgery of the sympathetic system is the work of Learmonth and Braasch, which appeared in October, 1930, in which a resection of the presacral nerve in the treatment of cord bladder was carried out. This was performed in a patient who complained of inability completely to empty the bladder, of difficulty in securing a bowel movement, and of occasional incontinence of the bowels after the use of aperients. The cystogram showed a trabeculated relaxed type of bladder, and other examinations conformed with this, amounts of residual urine as high as 300 c.c. being noted upon different occasions. The details of their operation are given in their paper. It will suffice to say here that the presacral nerve was resected through a left paramedian incision, all connections from the lumbar ganglia being severed as well as dividing the hypogastric nerves, thus interrupting the thoracico-lumbar sympathetic supply to the bladder. Distinct clinical improvement was noted following operation and, while the authors do not feel that conclusions may be drawn from only one case, they were very favorably impressed with their results and they believe that the operation may prove to be distinctly beneficial in certain types of cases of cord bladder.

During the last year Leriche and Fontaine reported some very interesting observations on neuromata of the sympathetic following sympathectomy. They state that they found no neuromata after periarterial neurectomy, but did after ganglionectomy and ramisectomy. In two cases they found a return of symptoms with the development of neuromata, the symptoms disappearing, however, when the latter were resected. This brings up a new complication, of which

we have heard very little before, and which would need to be kept in mind when doing extensive sympathetic resections. However, in those cases that I have seen, all of which have been ganglionectomies and ramisectomies after the method of Adson, no indication of neuromata developing has been seen.

In a recent issue of the *Journal of the American Medical Association* there appeared an article by White on "Diagnostic Blocking of the Sympathetic Nerves to the Extremities with Procaine; a Test to Evaluate the Benefit of Sympathetic Ganglionectomy." In place of the "fever" test, as used by Brown and Adson, White suggests temporarily blocking the sympathetic nerves by direct injection with procaine. The technic of the injection is mentioned in detail in his paper. The end-result of either the "fever" test or the procaine injection into the ganglia should be about the same, as, in either case, the sympathetic control is temporarily abolished. To date I have employed only the "fever" test, in which the mouth and skin surface temperatures in the extremities are compared at regular intervals following the injection of a special typhoid vaccine, and the amount of vasospasm determined by the degree of temperature rise in the periphery over that of the mouth. However, I see no reason why the diagnostic blocking of White could not be used to good advantage, and certainly it is well deserving of honorable mention.

My purpose in presenting this discussion is to bring before our minds at one time what has been and is being done all over the world in this type of surgery. All references in the literature have not been included, but I have attempted to make a fair survey of the outstanding contributions. As far as surgery of the sympathetic system for the relief of disturbances of the extremities is concerned, the modern trend seems to be away from periarterial work and toward operations upon the ganglia and trunks themselves. Whether we do ramisectomy alone or combined with ganglionectomy and trunk resection is not a matter of extreme importance, provided that, in each instance, all sympathetic pathways involved are completely interrupted. It would seem, in view of the work that has been done thus far, that this is more easily and satisfactorily accom-

plished by the use of the ganglionectomy operation. My own experience has been almost entirely with the ganglion and trunk resections and, in addition to obtaining very brilliant results with its use, I have not seen

any major deleterious effects either immediate or remote.

Editor's Note: A bibliography of fifty-three references accompanies this paper. The bibliography will appear in the author's reprints.

## A SIMPLE DEVICE FOR OBTAINING LOWER LEG TRACTION

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The writer has recently been confronted with the problem of obtaining traction on the lower leg for fractures of the lower tibia and fibula or both. In each case the fractures were oblique or spiral and reduction could not be maintained with a cast. Previous experience has taught us that plaster loses a considerable part of its fixation power when padded with sheet wadding. Complete or partial recurrence of the displacement may occur as soon as the swelling is reduced and the dressing becomes loose.

Although many surgeons, especially the French, are inclined to advocate open operation in such cases, one hesitates to undertake it with its dangers of infection and delayed union when foreign material is used for fixation, if a closed method is possible.

Steinman pin traction through the os calcis with weighted traction or plaster cast, although a simple procedure, is nevertheless an operation with attendant dangers of infection and possible osteomyelitis.

The Sinclair skate and adhesive traction, although simple in application, is not feasible in many of the fractures of the lower leg because of the scanty surface below the fracture site for the application of the adhesive. The constant attention necessary in adjusting this type of traction is a distinct burden.

The apparatus about to be described is not presented with any intent of being original, although the writer has noted no description of it in the literature.

Traction on the lower fragment or fragments is obtained by means of a well fitting, laced, ankle support; into the sides of which traction straps have been incorporated. Counter traction is afforded by using the Thomas splint.

The ankle support may be obtained from any shoe store and should be of the type that laces over the ankle, similar to those worn for supporting the ankles in skating. Varying sizes are carried in stock to fit the ankle.

Canvas traction straps are sewed into the anklet on both sides and may be arranged at any angle so that the resulting traction will overcome the type of deformity.

A special ankle support may be obtained which laces high onto the ankle and lower leg and is valuable in moulding the fragments into proper position in some types of displacement; by lacing tightly in addition to the traction.

A description of the apparatus and its use follows:

The ankle and foot are covered with cotton or sheet wadding and the ankle support applied and laced in place; being sure that the heel, malleoli, and dorsum of the ankle are well padded. A covered Thomas splint is applied to the leg and supported distally by a cross bar attached to the bed. Counter traction on the ring of the Thomas splint may be obtained by pulley traction attached to a cross bar at the head of the bed.

Ten to fourteen pounds weight is applied to the traction straps attached to the anklet by means of a rope passed through a pulley, fastened to a cross bar at the foot of the bed. As much as twenty-five pounds weight may be employed on the lower fragment without undue discomfort for the patient. As previously stated, however, ten to fourteen pounds are usually sufficient to overcome the overriding. At the end of two to three days the fragments are usually found to be well separated and the weight may be reduced to five to eight pounds, which is enough to maintain the bones in an end-on position.

A check-up roentgenogram should be employed when the fragments are separated, at

which time any undesirable deformity may be corrected by moulding or pressure pads.

Ten to fourteen days traction have been found ample in most cases to produce early clinical union, at which time the traction may be removed and a plaster boot applied to complete the convalescence.

Pressure or traction sores have not been encountered with this apparatus. The fracture site is always accessible for physiotherapy and roentgenograms. Once applied, the apparatus requires practically no attention or adjustment.

The following case report is illustrative of the use of the apparatus:

Patient, aged 18 years, admitted to the hospital following an automobile accident with a compound fracture of both bones of the lower right leg. X-ray studies of the leg revealed an oblique fracture of the lower third of the right tibia, two inches above the ankle, with a one inch overriding and posterior displacement of the upper fragment. The fibular fracture was transverse, with only slight displacement.

The compound wound was debrided and closed

without drainage. Under the fluoroscope, following longitudinal traction on the leg the tibial fragments were replaced and a long leg plaster cast applied with the knee in slight flexion. Check-up roentgenograms a few days later revealed a posterior displacement of the upper fragment with one half inch overriding.

The fracture was again manipulated under the fluoroscope and a plaster leg cast applied. X-ray through the plaster again revealed the original displacement.

The cast was removed and the ankle cuff traction apparatus with the Thomas splint and fifteen pound traction applied. Three days later the X-ray revealed complete separation of the tibial fragments in good position and the traction was reduced to five pounds. Eighteen days later the X-ray revealed considerable callus, the traction was removed, a plaster boot applied, and the patient discharged home.

In conclusion, I believe the simplicity of the device commends a trial, but it is in no way offered as a panacea for all lower leg fractures. Denial is not made that cases may be met in which operation must be performed because the fragments cannot be reduced in any other way.

## FAMOUS MEN IN MEDICAL HISTORY

### EPHRAIM McDOWELL AND EARLY AMERICAN SURGERY\*

KARL L. SICHERMAN

Surgery has never been a modest science, hiding its light under the bushel of reticence, or underrating its achievements. In every age, surgeons have regarded their situation as we view ours today. A century, even two centuries ago, medical men were firm in the belief that the surgery of their day represented the practical apogee of the art, beyond which no further improvements could be reasonably expected; and, at the same time, they did not hesitate to speak slightly of their predecessors as brutal fumbler in ignorant darkness. In 1777, for example, Percival Pott, at St. Bartholomew's in London, wrote, "No man, however slightly acquainted with the history of surgery, can have the smallest doubt of the superiority which its present state justly claims over that of our predecessors. . . . The surgery of the last century was coarse, cruel, painful, and tedious."

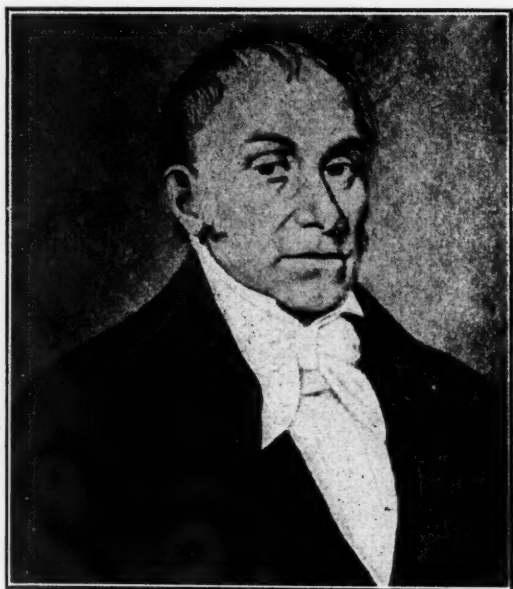
Surely the modern attitude towards the surgery of the nineteenth century could be expressed in these same words; yet, in 1840,

Professor C. B. Tilanus, a renowned surgeon of Amsterdam, felt himself justified in saying that while surgery "was not as yet quite perfect, it was within measurable distance of being so." These words, one must remember, were uttered some years before the advent of ether anesthesia, antisepsis, asepsis, and the X-ray, to say nothing of the highly specialized instruments and the skilled assistants today considered essential to surgery. Again, Samuel D. Gross, in 1879, spoke casually of the "comparatively crude condition" of surgery in 1830. However, the complacency of past writers in viewing their own times is easily forgiven; for they merely prove the ancient truism that the immediate participants of an era always lack the perspective which is essential to a proper evaluation of it.

The fact remains that, whether men realized it then or not, surgery at the beginning of the nineteenth century was a decidedly limited field, viewed in the light of modern knowledge. Even in America, where there existed fewer onerous traditions to delay the acceptance of new ideas and of progress,

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surgery retained all the shortcomings of England and the continental countries. Radical innovations were frowned upon, and mortality rates were almost high enough to furnish proof of the still prevalent belief that disease was the reward of sinning. But



DR. EPHRAIM McDOWELL  
(from Schachner's "Ephraim McDowell, Father  
of Ovariectomy")

while the science in America was almost as static and unprogressive as it was in Europe, it must not be imagined that America was without her competent surgeons. New York, Boston, and Philadelphia were even then important medical centers, whose surgeons had received excellent training not only at the best schools of Europe, but also on the battlefields of the Revolutionary War. There was, in fact, a sufficiency of capable, even brilliant operators, but their fields were restricted by the relatively undeveloped stage of the surgery of the day. Let us consider, for a moment, the problems which surgery solved, or attempted to solve, one hundred and thirty years ago.

Fractures, of course, belonged to surgery. In conjunction with them occurred an enormous number of amputations, necessitated by the severe infections which so frequently set in following compound fractures. As a matter of fact, infection was expected in practically every wound, and most early authors speak of "healthy (or laudable) pus" appearing a few days after operations on extremities. Tetanus, too, is often mentioned as a complication of wounds. Other

than fractures, dislocations, amputations, and traumatic wounds, the surgeon in 1800 could treat osteomyelitis, hernia, and aneurysms of peripheral vessels; and he could cut for stone. Lithotomy, in fact, was one of the most successful operations of this period, and carried with it a surprisingly low mortality rate. The removal of tumors of the breast, the neck of the uterus, the lips, the tongue, and the skin was commonly attempted, and often with success, although no attention was paid to the adjacent lymph nodes in cases of malignancy, so that recurrences were common. The records contain scattered accounts of such procedures as resection of the lower jaw, excision of the parotid gland, an attempt to remedy a dislocation of the crystalline lens, and a repair of a ptosis of the eyelid by a plastic operation—operations which even today are not frequently encountered.

Pre-operative and post-operative treatment can best be described by the one word, heroic. Counter-irritation was a principle vigorously applied, in the form of blistering, cupping, the moxa, or cautery. Either venesection or leeching was done in the presence of almost every complication, especially those featured by a full, bounding pulse, whether the condition was one of coma or delirium, anasarca or emaciation. In the surgical pharmacopeia, two drugs, mercury and opium, were used in a wide variety of cases and in perfectly enormous doses. The operations themselves demanded three things of the surgeon: a thorough working knowledge of anatomy, courageous judgment, and speed. Surgery, moreover, was not a profession for the soft-hearted or squeamish, for, since there was no anesthesia, the sufferings of the patients must have been extreme. The patient's sensations, however, were evidently considered unimportant, for, as the author of a standard textbook of surgery put it in 1824, "Severe pain should never be an obstacle." One marvels at the fortitude of these patients in submitting to major operations, and at their ability to recover following the loss of enormous amounts of blood, both at operation and from frequent therapeutic phlebotomy.

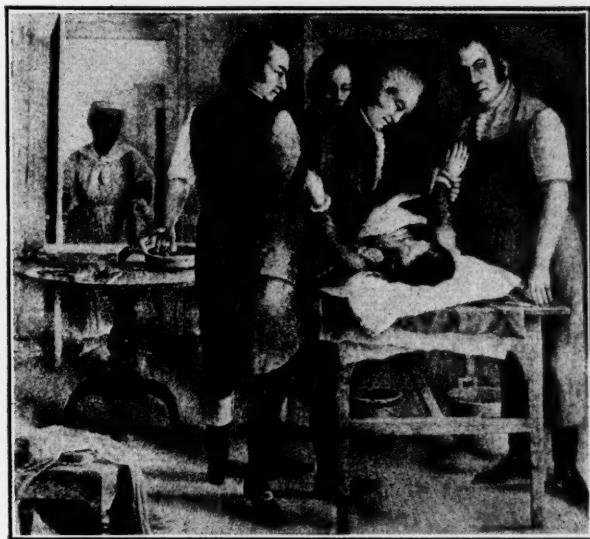
In this brief sketch of early American surgery, one striking feature is discernible simply because it is not mentioned. One notices that there is no reference to abdominal surgery. The reason for the omission

is, obviously, that there was no abdominal surgery. At this time, the human peritoneum was regarded as an inaccessible holy of holies. It was considered with fearful awe and deep respect, by tacit agreement inviolable, and was the one human organ never tampered with. To be sure, cesarean section was occasionally practiced, but only as a rather desperate last resort, usually against the surgeon's better judgment; and in traumatic and war wounds of the abdomen attempts were made at repair; but, in general, the abdomen was never opened. It is inconceivable that there were not men who felt that laparotomy should have been performed in some of their cases, but the fact remains that there were none who were willing to overcome their prejudices so far as to attempt it. This was the situation in the early years of the nineteenth century—not only in America, but in Europe as well.

And then, in 1817, an American frontier surgeon of Danville, Kentucky, announced to his incredulous professional brothers that the abdomen could be opened with comparative impunity, with the publication of the brief report of his first three cases of ovariectomy in the *Eclectic Repertory and Analytic Review*, a scientific journal published in Philadelphia. That man was Ephraim McDowell, to whose courage and convictions the world owes its immeasurable gratitude; for with his first report of cases, abdominal surgery began. His first case was reported as follows:

"In December, 1809, I was called to see a Mrs. Crawford, who had for several months thought herself pregnant. She was affected with pains similar to labour pains, from which she could find no relief. So strong was the presumption of her being in the last stage of pregnancy, that two physicians, who were consulted on her case, requested my aid in delivering her. The abdomen was considerably enlarged, and had the appearance of pregnancy, though the inclination of the tumor was to one side, admitting of an easy removal to the other. Upon examination, per vaginam, I found nothing in the uterus; which induced the conclusion that it must be an enlarged ovarium. Having never seen so large a substance extracted, nor heard of an attempt, or success attending any operation, such as this required, I gave to the unhappy woman information of her dangerous situation. She

appeared willing to undergo an experiment, which I promised to perform if she would come to Danville (the town where I live), a distance of sixty miles from her place of residence. This appeared almost impracticable by any, even the most favourable



THE FIRST OVARIOTOMY  
(from Schachner's "Ephraim McDowell, Father of Ovariectomy")

conveyance, though she performed the journey in a few days on horseback. With the assistance of my nephew and colleague, James McDowell, M.D., I commenced the operation, which was concluded as follows: Having placed her on a table of the ordinary height, on her back, and removed all her dressing which might in any way impede the operation, I made an incision about three inches from the musculus rectus abdominis, on the left side, continuing the same nine inches in length, parallel with the fibres of the above named muscle, extending into the cavity of the abdomen, the parietes of which were a good deal contused, which we ascribed to the resting of the tumor on the horn of the saddle during her journey. The tumor then appeared in full view, but was so large that we could not take it away entire. We put a strong ligature around the fallopian tube near to the uterus; we then cut open the tumor, which was the ovarium and fimbrious part of the fallopian tube very much enlarged. We took out fifteen pounds of a dirty, gelatinous looking substance. After which we cut through the fallopian tube, and extracted the sack, which weighed seven pounds and one half. As soon as the external opening was made, the intestines

rushed out upon the table; and so completely was the abdomen filled by the tumor, that they could not be replaced during the operation, which was terminated in about twenty-five minutes. We then turned her upon her left side, so as to permit the blood to escape; after which, we closed the external opening with the interrupted suture, leaving out, at the lower end of the incision, the ligature which surrounded the fallopian tube. Between every two stitches we put a strip of adhesive plaster, which, by keeping the parts in contact, hastened the healing of the incision. We then applied the usual dressings, put her to bed, and prescribed a strict observance of the antiphlogistic regimen. In five days I visited her, and much to my astonishment found her engaged making up her bed. I gave her particular caution for the future; and in twenty-five days she returned home as she came, in good health, which she continues to enjoy."

Mrs. Crawford, the heroine of this particular noble experiment, who had submitted calmly and resignedly to an operation which had never been done before, lived for thirty-two years afterwards, and died at the ripe old age of seventy-nine. Her courage not only gave to countless other suffering women the boon of ovariectomy, but added thirty-two years to her life, and brought honor to America.

In the same paper, McDowell reported two other cases which he had operated, with complete recovery in both.

As might have been anticipated, the paper brought forth a storm of skepticism, ridicule, and doubt. It was not to be expected that anyone, at this time, would realize that McDowell's brief, simple contribution to the surgical literature of the day marked the birth of abdominal surgery. That McDowell himself was not fully aware of the significance of ovariectomy is attested by the fact that it was not until eight years after his first case that he consented to publish an account of the first three cases in the *Eclectic Repertory*, after a good deal of persuading and cajoling on the part of his friends and relatives.

Because of the novelty of the operations, and the loose way in which they were reported, attempts were made, here and in Europe, to deny their authenticity, to cast discredit upon McDowell's veracity, and to dispute the claims which were offered for

his priority as an ovariectomist. Perhaps the most offensive of these detractors was Dr. James Johnson, then editor of the *London Medico-Chirurgical Review*, a periodical widely read in the United States, who sneered openly at the idea of ovariectomy, and bluntly said that he could not bring himself to believe such procedures possible. Other men referred to ovariectomy as a brutal and murderous operation; and in general, those who were not indignant about it gave it a cold reception. For example, in 1816, McDowell had sent a copy of his paper to Phillip Syng Physick, of Philadelphia, asking that gentleman to have it published if he found it "worthy." Dr. Physick, one of the outstanding figures in American medical history, and later known as the "Father of American Surgery," took absolutely no notice of the paper, and did not acknowledge to McDowell, his pupils, or any one else that he had received it. Like the rest of his profession, he was probably incredulous, and must have considered the author of the brief paper a backwoods impostor. Dr. Thomas James, the editor of the *Eclectic Repertory*, deserves a great deal of credit for the encouraging interest he displayed by publishing the article, in the face of Physick's unkind indifference. In spite of the general prejudice against ovariectomy, however, McDowell continued his work, and in 1819 published the report of two more cases, which, like the first three, were given little credence.

One naturally wonders what sort of man this Ephraim McDowell was, who dared to do what no one before him had dared even to attempt. He was born on November 11, 1771, in Rockbridge County, Virginia, of Scotch-Irish parents. His father was a prominent and well liked public character, who held many high positions of trust, both in Virginia and in Kentucky, to which state he brought his family when Ephraim was thirteen. He was the first United States judge in Kentucky; he was a member of the convention which drafted the constitution of that state; and he had been a commissioned officer under Washington in 1755. Ephraim was the ninth of eleven children. He received his early education at a classical seminary in Georgetown, Kentucky. When he was nineteen, he returned to Virginia to begin his medical studies under Dr. Alexander Humphreys, in whose office he re-

maintained for two or three years. Little is known about Dr. Humphreys, except that he usually had several students around his "shop," learning whatever they could of the mysteries of medicine; and that he was a graduate of the University of Edinburgh. Perhaps this fact influenced McDowell himself to study abroad, for in 1793 he enrolled at the University of Edinburgh, where he remained for two years. Among his compatriots at Edinburgh during these years were several other young men who were destined to become important figures in American medical history, notably Samuel Brown, David Hosack, and John Davidge, all of whom later appeared in the rôles of founders of medical schools in this country.

During his first year at Edinburgh, McDowell studied privately under the illustrious John Bell, who was probably the most brilliant and highly gifted of the Scotch surgeons of that day, and who must certainly have played an important part in establishing some notions of ovariectomy in the young student's mind. Bell's tremendous energy, his abhorrence of falsehood and compromise, and his eloquence in portraying the sufferings of women with diseased ovaries must have made an enormous impression on McDowell, and inspired him with the unrealized hope that he might some day be able to contribute some measure for their relief.

In 1795, the young physician returned to Danville, then a frontier town of less than five hundred inhabitants, to begin the practice of medicine and surgery. He did not wait to obtain a degree from the University of Edinburgh, and, in fact, managed to get along without one until 1823, when the University of Maryland honored itself and McDowell by awarding him the degree of Doctor of Medicine in recognition of his achievements in surgery. From the very start, McDowell was remarkably successful. Danville, at that time, possessed an importance out of proportion to its size, and what it lacked in numbers it more than counterbalanced in the connections and the character of its inhabitants. Thus it was that although McDowell began his career in a small frontier town, his extensive and influential connections, the reputation of his foreign training, and the absence of any serious competition, quickly brought results. He rapidly developed an extensive practice

covering what was then the entire Southwest, and very shortly came to be recognized as the first surgeon west of Philadelphia. His practice covered hundreds of miles around, even though there were no roads or stagecoaches, and even though he had to go on horseback when he was needed on the far border of the frontier. Often such a call meant an absence from home for many days; and sometimes the surgeon had to perform difficult surgical operations far from any of the comforts of civilization. The Indians were still menacing, and actively resenting, the advance of white men into their territories, and wolves were so plentiful in 1810 as to justify the passage of a scalp law aimed at their extermination. When one considers that McDowell labored under disadvantages which are almost inconceivable in modern surgery, and when one remembers that he worked without anesthesia, trained helpers, and all of the "aids, comforts, and safeguards" of present day practice, his achievements seem almost more than human. Working alone, handicapped by the crudeness and simplicity of his wild setting, he not only performed all of the operations known to surgeons of his day, but in addition was able, by virtue of his skill, courage, and judgment, to open up what has proven to be an enormous and fruitful field of surgery.

McDowell ranked high as a lithotomist, and for some years was the only surgeon in Kentucky to perform lithotomy. The exact number of these operations he performed is not certainly known, but according to Gross, "he had, up to 1828, two years prior to his death, executed it thirty-two times, and that without the loss of a single patient." It is interesting to note that one of his patients was James K. Polk, later president of the United States, whom he successfully treated not only for stone but also for a troublesome hernia. He paid a good deal of attention to hernia, and often operated for strangulation. There was, in fact, no operation which he had not attempted at the time; and it is said that he was the first surgeon in this country to remove the parotid gland, and one of the first to perform a resection of the mandible. Although he was a general practitioner, surgery was his love. For medicine, as such, he had small regard, and often remarked that the use of drugs was "more of a curse than a blessing to the human race"; but sur-

gery he spoke of as "the *certain* branch of the healing art."

It is a matter of profound regret that McDowell was extremely reticent about appearing in print. Unfortunately, his only contributions to medical literature were his two papers on his first five cases of ovariectomy, published in 1817 and 1819; he wrote nothing at all about the eight cases which followed these. Of his whole series of thirteen cases, eight were completely successful. As Dr. Gross suggests, in McDowell's long and varied surgical practice he must have accumulated a vast amount of knowledge of great value, and it is surgery's loss that he failed to keep records of his experiences. It is apparent that he did not desire fame, nor was he bothered by notoriety.

When he published his second paper, in 1819, McDowell probably had begun to appreciate the potentialities of ovariectomy. That he believed that reforms were necessary in surgery is manifested by the following remarks from that paper, in which he alludes to several criticisms which had appeared regarding his previous report:

"I thought my statement sufficiently explicit to warrant any surgeon's performing the operation when necessary without hazarding the odium of making an experiment, and I think my description of the mode of operating, and of the anatomy of the parts concerned, clear enough to enable any good anatomist, possessing the judgment requisite for a surgeon, to operate with safety. I hope no operator of any other description may ever attempt it. It is my most ardent wish that this operation may remain to the mechanical surgeon forever incomprehensible. Such have been the *bane* of the science; intruding themselves into the ranks of the profession, with no other qualification but boldness in undertaking, ignorance of their responsibility, and indifference to the lives of their patients; . . . they cut and tear with fearless indifference, utterly incapable of exercising any judgment of their own in cases of emergency; and sometimes without possessing even the slightest knowledge of the anatomy of the parts concerned. . . . The preposterous and impious attempts of such pretenders, can seldom fail to prove destructive to the patient, and disgraceful to the science. It is by such this noble science has been degraded in the minds of many, to the rank of an art."

Even the corroboration of the additional cases, however, failed to convince the world. For many more years ovariectomy was spoken of as butchery and unnecessary cruelty. A few hardy souls in America sympathized with the pioneer's views; but in general, all surgeons who knew of McDowell's work, and most of those who did not, refused to admit that ovariectomy was ever justifiable, or likely to be accepted. In 1821, to be sure, another American surgeon, Nathan Smith, entirely unaware of the fact that McDowell had preceded him by eleven years, performed a successful ovariectomy; and while it is possible that there were, in addition, other courageous surgeons who might have done the operation here or abroad between 1809 and 1821, there are no records of any other cases.

Now it happened that when McDowell sent the report of his first three cases to Dr. Physick, in 1816, he also sent a copy to his old master, John Bell, in Edinburgh. Bell, however, was travelling in Italy at the time, and did not return home before his death in 1820, so that the paper never reached him. It fell, instead, into the hands of John Lizars, Bell's associate, in whose care he had entrusted his affairs during his absence. Lizars, after several years of deliberation, and influenced largely by McDowell's report, finally resolved to attempt ovariectomy, and in 1825 published a detailed account of his first four cases. His paper was notable for three things: first, in his review of the literature he mentioned McDowell's results, and quoted his paper verbatim in a footnote; second, unlike McDowell, who was careless of detail and chary of words, Lizars presented a paper complete in every detail, polished and well written, and done in the best scientific manner; and third, it succeeded, largely by virtue of its author's reputation, in awakening general interest in ovariectomy, at least in Europe, by attracting the attention of surgeons to the operation. Of Lizars' four cases, two recovered, one died, and the fourth was an utterly disgraceful failure due to a mistaken diagnosis.

Although the prejudice against abdominal section now began to be overcome, it was, nevertheless, a good many years before ovariectomy came to be accepted as more than a mere experiment. Nothing was done, in fact, at home or abroad, to revive the operation until 1842, when it received a new

impulse at the hands of Dr. Charles Clay, of Manchester, England, followed shortly after by Dr. Frederick Bird, of London, and, in America, by the Atlee brothers, of Philadelphia. Dr. John Atlee performed his first ovariectomy in 1843, while Dr. Washington Atlee first removed a diseased ovary in 1844. Up to 1880, these two brilliant surgeons had saved the lives of more than three hundred women with ovarian tumors. Beyond a doubt, to them is due the credit for finally establishing ovariectomy as a valuable surgical procedure in spite of the opposition and derision which greeted their early efforts.

But the world can never measure how much more credit is due Ephraim McDowell. When he died, in 1830, ovariectomy was a rare operation, with a relatively high mortality rate, saving from death only a very few of the thousands of women suffering from ovarian tumors when its wider application might have saved hundreds of them. The fruit of his labors was posthumous, a fate all too often accorded the really great benefactors of the human race. He did live to see Dr. Johnson, who had written so disparagingly of McDowell's first cases, retract his earlier sneering remarks, admit that ovariectomy was both feasible and desirable, and apologize (albeit with rather poor grace) "to God, and Dr. Ephraim McDowell, of Danville"; but he did not live to see his operation accepted generally in practice. Had he lived in France, he would have been elected to the Academy of Sciences and to the Legion of Honor; in England he would have been knighted. In his own land, the prophet was without honor until 1852, twenty-two years after his death, when Dr. Samuel Gross, then a resident of Louisville, presented the Kentucky State Medical Society with a sketch of the life and original work of the first ovariectomist, proving McDowell's priority in abdominal section beyond all dispute. Since that time, the profession has known that "pelvic and abdominal surgery began with ovariectomy"; and "ovariectomy began with McDowell."

To be sure, the impetus which McDowell's work gave to surgery was slow in being felt, but in time it led to the enormous extension of the whole field of abdominal surgery. As the years passed, operators grew more and

more bold, until, when ancient taboos and prejudices had been destroyed by the invasion of regions previously held as sacred and never to be meddled with, there came to be no territory forbidden to surgeons of judgment. Within fifty years of McDowell's death, Samuel Gross, in speaking of the recent progress of abdominal surgery, remarked that it was then becoming common for surgeons to extirpate the gall bladder, the uterus, the spleen, or a kidney; and that a friend of his in Columbus, Ohio, had recently wired him of the successful removal of the liver from a woman whom he expected to recover, but who unfortunately died the next morning, when autopsy revealed that, instead of the liver, only an ovary had been removed. Gross added that he expected at any time to read newspaper accounts of "the successful amputation of the head without any serious detriment to the patient's mental faculties, despite the assertion of . . . , a French surgeon, that this portion of the body, which he invariably designates as the encephalic extremity, 'can not be removed during life without stopping respiration and causing other inconveniences which, unhappily, render the operation inadmissible.'" The statement is still true, but in viewing the rapid progress of brain surgery today, one wonders how soon it will be refuted.

In 1879, the citizens of Kentucky paid tardy honor to the fame of Ephraim McDowell when they caused a memorial monument to be erected to his memory in Danville. In 1909, the American Gynecological Society paid further tribute to the first ovariectomist by celebrating the centennial of the first ovariectomy, which they recognized as superior to all other strictly surgical operations in its life-prolonging results for women. J. R. Goffe, speaking at the celebration, referred to ovariectomy as "an operation fraught with happiness," and expressed the sound belief that it "ranks second only to one other great discovery which this country has given to the world, viz., anesthesia." No one can doubt the truth in these words when he considers how many thousands of years have been added to the lives of women, all of which would have been lost had ovariectomy never been performed.

## MICHIGAN DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Commissioner  
LANSING, MICHIGAN

## AUTOMOBILE DEATHS FOR 1930

Automobile accidents must be considered as a most important cause of death. In 1930 they ranked eighth among the causes of death, being exceeded only by heart disease, cancer, cerebral hemorrhage, tuberculosis,

road and automobile; and 22 to street car and automobiles.

It will be observed that the number of deaths due to railroad and automobile collision was reduced more than ten per cent. It is probable that this is due, in a measure



chronic nephritis, pneumonia and premature birth.

There were 1,560 deaths due to automobile accidents in Michigan in 1930, a slight increase over the 1,541 of 1929. Of this number, 1,443 were due to automobiles alone; 90 were due to railroad and automobile accidents; and 27 were due to street car and automobiles. In 1929 a total of 1,418 were due to automobiles; 101 to rail-

at least, to the elimination of grade crossings, and as this factor is gradually improved we may hope to greatly lower this cause of death.

To the general elimination of interurban cars in this state during the past few years is probably due the slight decrease in deaths due to street car and automobile collisions. Of course, street cars are still running, but heretofore many accidents have been due to

interurban collisions, and it is here that the reduction has come.

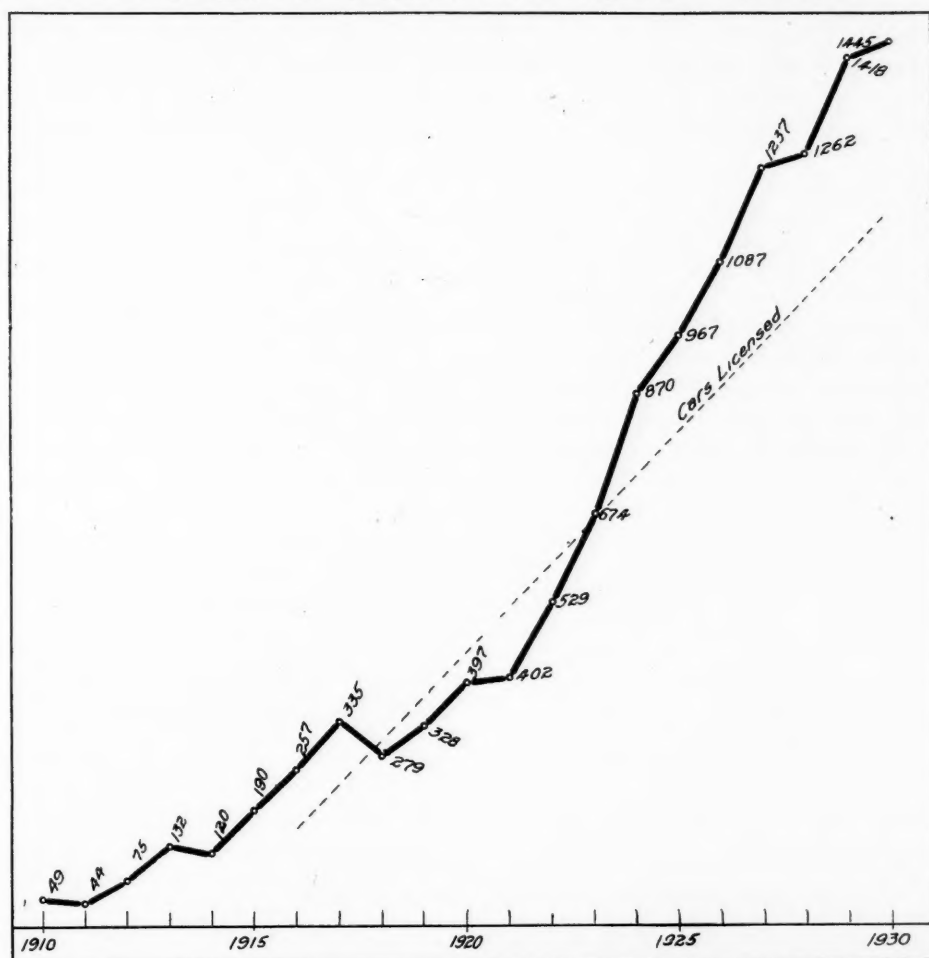
In considering the 1,443 deaths due to automobiles alone, it must be remembered that these deaths represent pedestrians as well as riders in automobiles.

It is interesting to note that prior to 1910, automobile deaths were not sufficiently significant to be kept separate from those attributable to general violence. In 1910, the

of automobiles licensed. It must be borne in mind, however, that the increase in the number of automobiles licensed works in two ways—in the one case by increasing the number of persons using automobiles and in the second case by increasing traffic congestion. The two factors are equally important.

Consideration of the number of deaths per 10,000 automobiles registered brings out some interesting points. Six counties

## MICHIGAN AUTOMOBILE DEATHS 1910 - 1930



*Michigan Department of Health*

year in which they were first separated, there were only 49 deaths, equivalent to about one-eighth of one per cent of the total number of deaths. By 1930 they had risen to 2.75 per cent of the total deaths.

The accompanying map and chart show graphically the story. The map illustrates the number of deaths in each county. The historical chart shows the increase in the number of deaths due to automobiles alone, not including collision with heavier vehicles, from 1910 to 1930, inclusive, and also the trend of the expectancy due to the number

had no automobile deaths—Benzie, Kalkaska, Keweenaw, Oscoda, Missaukee and Roscommon. For the state as a whole, there were 10.7 deaths for each 10,000 automobiles registered. Wexford County, with a rate of 28.2 deaths per 10,000 cars, was the highest in the list of counties.

Many national committees and organizations are at work on the problem of reducing deaths from automobile accidents, and judging from the statistics of Michigan alone there is ample room for action.

W. J. V. D.

# Courses for Graduates

The Department of Post-Graduate Medicine  
and  
The Michigan State Medical Society

## Announce

The Third Annual General Practitioners' Course  
to be given at the Receiving and Herman  
Kiefer Hospitals, Detroit, June 15 to 27, 1931

Realizing that the responsibilities of most physicians in general practice require a working knowledge in all fields of Medicine, this Course has been arranged to afford the widest possible opportunity to come in touch with the newer methods of diagnosis and treatment.

While the subjects are scheduled so that those especially interested in Medicine or in Surgery may avail themselves of one week's instruction in either of these fields, the two-weeks' period is recommended as much more adequate for a well-rounded review.

The Course will consist of 60 hours of instruction, the daily schedule being from 8:00 A. M. to 1:00 P. M.

In addition to the Practitioners' Course, periods of one week each have been arranged in the following divisions, some of which are given upon the completion of the two-weeks' period and others at intervals throughout the year:

Fractures	Mental Hygiene
Proctology	Growth and Development
Tuberculosis	Serology
Cardiology	Roentgenology
Gastro-enterology	Physical Therapy
Allergy	Laboratory Technic
Metabolic and Nutritional Diseases (adults)	
Diseases of Blood and Blood-forming Organs	
Gynecological Pathology, Gross and Microscopical	
Infectious Diseases of Infancy and Childhood	
Infant Feeding and Nutritional Diseases of Childhood	

For further information, address

Director of Post-Graduate Medicine  
University Hospital, Ann Arbor, Michigan

# THE JOURNAL

## OF THE

### Michigan State Medical Society

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JUNE, 1931

*"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."*

—Francis Bacon

## EDITORIAL

### CULTURE IN MEDICINE

Among our exchanges is The Journal of the Association of American Medical Colleges, which, though different from the rest, contains papers of unusual interest. The March number contains two papers entitled, respectively, "The Relative Value of Cultural Courses in Premedical Training," by Dean Thorpe of the University of Pennsylvania School of Medicine, and "The Cultural Value of the Medical Curriculum," by Dean E. P. Lyon of the University of Minnesota School of Medicine.

Among other things the discussion by Dr. Thorpe includes premedical education. Does a knowledge of chemistry, biology and

physics as required of candidates at the present time make them better students than those who entered upon the study of medicine with less science and more of what might be called humanities? Four students who ranked highest at the University of Pennsylvania Medical School during the past twenty years had the minimum of scientific requirements and a fairly good classical education, all of which led the writer to conclude "that it is not necessary for the good student to prepare himself for a career in medicine by electing an inordinate amount of chemistry, biology and physics in college." In the discussion following the papers, Dr. Simpson of McGill University Medical School agreed that it is not the amount of science in the preliminary education of the medical student that counts so much as the thoroughness of training he has received. In his experience in the past five years, four or five students stood out as exceptional. Only one had a B.S. degree; of the others, one majored in economics, one in Latin and Greek, and one in history. We heartily agree with these opinions; it is the student who has been well trained, who has learned how to study, who makes the best showing, and it matters very little on what subjects he has exercised his wits, except that he is apt to do a great deal better if the studies are those of his own choice, than subjects that are made compulsory for him.

"From the earliest times," says Dr. Thorpe, "the physician has held a high position in society which he has maintained because he was usually a man of broad learning. Are we not running the risk of turning out men who will be mere scientific robots? Are we not even now turning out men who split infinitives with the same sang-froid as they split the right rectus muscle to remove an inflamed vermiform appendix?" Culture would seem to include attention to the amenities of life. He quotes Dick Steel of *Spectator* fame. "A gentleman who speaks coarsely has dressed himself clean to no purpose." And Dr. Thorpe concludes, "Let us advise young men to ground themselves in the principles of science and to acquire, if possible, a taste for history, philosophy, literature and art so that they may look forward to the years of middle age and truly say with Virgil, '*Forsan et haec olim meminisse Iuvabit.*'"

Dr. Lyon sums up the case for culture as

follows: "Culture is characterized by a catholicity of viewpoint; it is characterized by a universality of interest, by an internationalism of spirit. Culture is expansive, not limited; it ranges, it is not confined. Finally it is tolerant; and tolerance means sympathy." He goes on to say that since the medical profession exhibits many examples of the highest culture, the medical curriculum is one of the avenues through which one may obtain a cultural experience.

Culture is an elusive entity; it is of a class of words such as light, life, death, difficult to define, yet its manifestations are clear to everyone. Nor in our opinion can culture be acquired by memorizing Elbert Hubbard's scrap book or by fifteen minutes a day with Eliot's five-foot book-shelf, as interesting as these may be. We can see how such a course might make of a man or woman an intolerable bore.

John Cowper Powys quotes the following definition which at least puts one on his guard against associating culture too closely with the subjects which are commonly included in education. "Culture is what is left over after you have forgotten all you have definitely set out to learn." There has appeared recently a little book designed to be a best seller entitled "The Road to Culture." We are pessimistic enough to doubt that, even following this road, one might ever arrive.

Externally we associate culture with neatness of attire, with carefulness combined with ease in speaking, with a voice that is not unpleasant. We can hardly conceive of a cultured man who is not educated, but there are many educated persons who are anything but cultured. The cultured life may be built upon a book foundation. The cultured person is critical in his outlook on life. In other words, he does his own thinking and accepts truth only on evidence; yet, he is tolerant where tolerance can be considered a virtue, which it is not always. He should aim at accuracy, avoid cock-sureness of statement, and never hesitate to acknowledge his limitations. Yet all this is not a definition. We are inclined to place the term *culture* in the same category as *personality*, a word we were never able to define to our satisfaction.

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*Do not forget the date of the American Medical Association which meets this year in Philadelphia. The dates are June 8 to 12, inclusive.*

## DETROIT DOCTORS' INCOMES

A short time ago we received Bulletin No. 10 issued by the Committee on the Cost of Medical Care. Interesting as the subject naturally is, dealing with matters which intimately concern the medical profession of Detroit, it is more so since the Bulletin is largely the work of Dr. Nathan Sinai, who has been connected with the Department of Hygiene and Public Health of the University of Michigan Medical School. Dr. Sinai has been also an important worker in connection with the activities of the Joint Committee on Public Health Education, in which capacity he has become known personally as well as favorably to a large number of the members of the Michigan State Medical Society. He has the point of view of the physician which is so rare with those outside the medical profession who presume to study its problems. Dr. Sinai is peculiarly qualified to make such a study as outlined in this Bulletin and to generalize from his findings.

The title of the publication is, "A Study of Physicians and Dentists in Detroit, 1929." We cannot do justice to it in the compass of an editorial. However, a few of the statistics gleaned therefrom will not be without interest, it is hoped. Per capita expenditure for physicians' services of Detroit for the year 1929 is estimated at \$9.33 and \$5.46 for dental care. Detroit physicians have spent on an average seven and one-half years in preparation for their profession, and in addition to this approximately half of them have supplemented their medical training by some post-graduate study during the past decade. Nearly 60 per cent of the physicians of Detroit limit their practice either partially or wholly to one or two definite fields. Even the general practitioners exclude one or more branches of medicine.

Detroit doctors are apparently doing their part very satisfactorily in the matter of preventive medicine in the way of diphtheria immunization, smallpox vaccinations and general health examinations.

About thirty per cent of the patients in Detroit are estimated to receive treatment at less than the private physician's usual fee. Seven per cent, on an average, receive free care. These figures refer to the year 1929, when the survey was made. The number of patients receiving free care at the present

time is enormously in excess of this estimate.

According to Bulletin No. 10 the range of physicians' incomes varies from approximately \$1,500 to \$50,000, of which 50 per cent is used strictly for professional expenses, leaving net incomes which range from actual deficits to \$27,000. The income of the "average doctor" is placed at \$4,500.

Detroit had 761 dentists (1929). The dentists are reported as having higher incomes than physicians, which incomes do not vary over so wide a range as do those from medicine. No dentist reported a net income of less than \$500, although 4 per cent of the physicians fell in this class. From the report it appears that, so far as physicians and surgeons are concerned, Detroit has reached the "point of saturation." Of the two professions, the writer concludes, "It appears that Detroit has more need for additional dentists than for additional physicians."

The study was made in collaboration with a committee appointed by the Wayne County Medical Society, the members of which are all well known as responsible members of the profession. The report, which is fifty pages in length, contains a large amount of tabulated information which is of the utmost interest not only to the medical and dental professions of Detroit but to the members of the entire Michigan State Medical Society as well. The work intrinsically has been well done, and Dr. Sinai and his assistant, Mr. Alden B. Mills, are to be commended on the thoroughness with which the survey has been made.

### WRITING MEDICAL PAPERS

No one realizes more than the editor the danger of attempting to give advice on a subject such as this. Any advice given, however, is the outcome of experience he has had in editing medical papers. Let us begin by saying that the majority of contributions to this Journal have been prepared with evident care so that the editorial function has been an easy matter. This editorial is addressed to the exceptions.

The ordinary business letter-head size sheet (8x11 inches) is used by the vast majority of writers and therefore for convenience should be employed by all.

It would seem almost needless to say that all papers should be typewritten, were it not

that we have received papers written by pen, and one or two by lead pencil.

Occasionally, in an effort to be concise, writers will omit the article and sometimes auxiliary verbs as well, so that their sentences read like telegrams. "Incision was made along border of erector spinæ, latis-simus dorsi separated and kidney fat exposed." This style of writing is adequate for taking notes for private perusal, but submitted for publication it requires elaboration by the use of the definite article and auxiliary verbs. Avoid an abbreviated style.

Papers are frequently submitted which show evidence of having been dictated to a stenographer and not having been revised by the author. The stenographer is never responsible for any typographical errors that may appear in the final copy. The author (except the editor should the paper find its way into print) must always shoulder the blame for such inaccuracies. One should read his paper over carefully after it has been finished, as he thinks, to his liking. Better if he has the opportunity of reading it aloud to a critical friend, and here we hesitate to call any one a friend who is not critical in such circumstances. Papers should be written double space. Often they come to us written single space, which leaves no room for editorial revision. And here we would say, *never submit a carbon copy* for the printer. Give the typesetter the best possible opportunity to get your paper into type accurately. The carbon copy should be retained by yourself to guard against possible loss of the original. When the paper appears in print the carbon copy may then be destroyed.

Peculiar as it may seem, an author occasionally forgets to have his name typewritten at the head of his paper. The name and address should appear clearly at the head of the first page and the different pages should be securely fastened together with a staple or paper fastener that will prevent them from becoming detached and therefore lost.

In the course of editing a Journal scarcely ever has the editor not found medical writers who disregard one or more of the precautions here mentioned.

The matter of punctuation appears to be a *bête noire*. This may be attributed to the fact that these persons were taught, or they learned, hard and fast rules in regard to punctuation when they were at school.

There is no right or wrong about it because, strictly speaking, there is no fixed standard of correct punctuation. Judged by the standard taught us early in our educational career almost every noted author has been found to err. Punctuation is like style, it is best described by the words *good* or *bad*, rather than right or wrong. And yet this very fact leaves room for careful study. Bad punctuation can defeat the author's attempt to express himself. Hence the necessity for the studied use of punctuation marks. A very general rule is to avoid too frequent use of them. A simple direct statement requires only a period. The more involved a sentence in the matter of dependent clauses the more necessary to separate such clauses to aid the eye in the reading. Punctuation marks are an aid to the eye only.

The rules of grammar must be obeyed, but it is not so necessary to know them, as is commonly thought; clear thinking produces clear writing without much reference to the laws of language. The advice of Lindley Murray, the pioneer grammarian, is good today. Murray was a Pennsylvania Quaker of the eighteenth century who spent most of his adult life in England. Murray wrote:

"Perspicuity is the fundamental quality of style: a quality so essential in every kind of writing, that for the want of it nothing can be done. It is not to be considered merely as a sort of negative virtue, or freedom from defect. It has higher merit; it has a degree of positive beauty. . . . Whatever a man conceives clearly, he may, if he will be at the trouble, put into distinct propositions, and express clearly to others, and on no subject ought any man to write, on which he cannot think clearly."

How many of our best writers have discovered late in life that they had something to say and have delivered themselves in the most beautiful English without much preliminary training. However, training in writing is not by any means to be ignored.

After the paper has been typewritten, the author may often have occasion to revise it either by making deletions or additions, or both. If such corrections occur at all frequently, it is better that the paper be rewritten before submitting it for publication. The cleaner the copy the more likely is it to be free from errors when it finally appears in print.

There are a number of handbooks on the preparation of medical papers which we can recommend, among them the little handbook prepared by Dr. Fishbein, Editor of the

Journal of the American Medical Association; The Writing of Medical Papers by Mrs. Mellish, Editor of the Mayo publications, and Notes on the Composition of Scientific Papers by Clifford Allbutt. Any one writing as many as two medical papers a year should possess all three of these works dealing with the writer's craft. Those who are interested in the art of writing will find A Writer's Notes on His Trade, by the late C. E. Montague, one time editor of the Manchester Guardian, and The Art of Writing, by Sir Arthur Quiller-Couch, of unusual interest.

### MEDICAL GRADUATES

June is the month of the year in which the harvest of college graduates matures. We are concerned more immediately, however, with the recruits to the ranks of medicine. The United States has never lacked medical schools, at least since its early colonial history. In 1904 there were 162 schools, the majority of which were of the proprietary type known to the older physicians practicing today. We have never felt disposed to throw stones at the proprietary school. Many of them served their day and generation well; many, on the other hand, were very mediocre, and on the basis of their service to society had no legitimate reason for existing. The number of medical schools has been reduced to sixty-six, whose work is accepted by the Council on Medical Education of the American Medical Association. In 1904 the number of graduates was 5,747; in 1929, from the sixty-six schools the graduates numbered 4,500. Significant is the age of the graduate at the present day. More than half in 1929, we are told\*, were from 24 to 27 years old, and 89 were 35 years old or older. According to the American Medical Association, 9 were 21 years of age, though we can hardly understand how a young man can fulfill present day pre-medical and medical requirements and graduate at the age of 21.

The applications for the freshman class in medical schools continue to be a great deal in excess of the number who can be accommodated. Medicine appears to be a very popular profession with a glamour all its own to the young man who views it from a distance. The Journal of the American

\*Editorial, Journal of the American Medical Association, April 25, 1931.

Medical Association gives a ratio of physicians to the population of this and several other countries as follows: The United States has one physician to every 800 persons; Switzerland, one physician to 1,250 persons; Denmark, one physician to 1,430; England and Wales, one physician to 1,490 persons; Germany, one physician to 1,560 persons; France, one physician to 1,690 persons; the Netherlands, one physician to 1,820 persons, and in Sweden, one physician to each 2,860 persons.

#### DR. FRANK BURR TIBBALS

The death of Dr. Tibbals on April 22 removes from the ranks of medicine in this state a valued member, one who in the particular field he chose as a sort of hobby, served the profession well. Many have Dr. Tibbals to thank for his wise counsel and his help in getting them out of difficult situations in which they were for the most part hapless victims, often through no fault of their own. Elsewhere in this number of the *Journal* there appears an account of Dr. Tibbals' career prepared by one of his office associates. The doctor was one of the best educated men in the medical profession. He graduated from Yale University in 1888 and from the University of Michigan three years later. Dr. Tibbals was editor for several years of the *Detroit Medical Journal*. He was a member of the Board of Trustees and Treasurer of the Michigan State Medical Society, and was Chairman of the Medico-Legal Committee from 1910 up to the time of his death. Dr. Tibbals had a mind that would have brought him success in law. Probably no more able person could have been selected for the position that he held for over two decades in connection with what was early known as the Medical Defense League, which he virtually created. During this time through his association with the firm of lawyers whose function it was to deal with these cases, Dr. Tibbals acquired a vast amount of practical legal information.

The sympathy of the profession which he served so well goes out to Mrs. Tibbals and family.

#### GOOD FELLOWS GET TOGETHER

A very pleasant event took place (no it was not a wedding) at the Wayne County Medical Society auditorium on the evening

of May 6th, when the medical and legal professions met and told what each thought of the other. The Medical Society were the hosts. Invitations were sent out to the Wayne County Bar Association, which organization turned out in large numbers, with the result that the auditorium was filled to the point of standing room only. This fact is mentioned as an indication of a desire of both professions to seek a basis of common understanding. Dr. W. J. Stapleton, acting Chairman of the Medical Defense Committee of the Michigan State Medical Society, discussed the scope of the proposed medical-legal institute, which is to consist of five members from each profession, whose function it will be to study the problem of their common interests and to make recommendations.

The first joint meeting was characterized by the best of feeling and a deal of good natured railery on both sides. An evening of

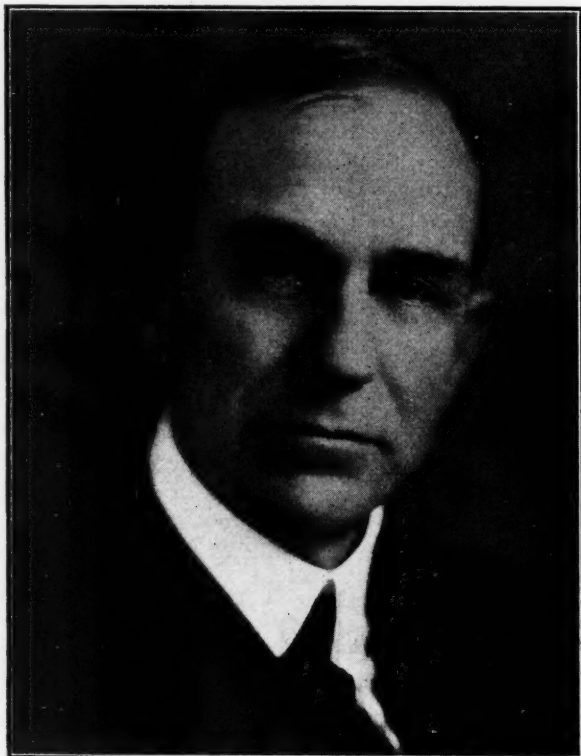
"Jest and youthful jollity,  
Quips and pranks and wanton wiles,  
Nods and becks and wreathed smiles."

Every lawyer and every doctor must have felt some time in his life that it would be to the advantage of both were the two professions to work together in their common interests, which would also be in the interest of the public. There is the matter of the expert witness, the supplying of medical data in cases suspected of crime, the fixing of responsibility, the matter of health legislation, much of which is inimical to the public good, owing to the fact that such legislation did not take into consideration information that only the trained physician could supply. These are only a few. Both professions await with interest the results of study by the committee of ten. The precedent (if we may use a legal term) that the Wayne County Medical Society has sought to establish, of an annual joint meeting between the Medical Society and Bar Association may, we hope, be followed by similar organizations in other cities and municipalities of the State.

#### DR. RICHARD R. SMITH, REGENT

The University of Michigan, Governor Brucker who made the appointment, as well as Dr. Richard R. Smith the appointee, are to be congratulated in regard to the filling of the vacancy on the Board of Regents caused by the death of Dr. Sawyer. No

man better qualified for the position could have been selected. The fact that this was in no sense a political appointment is likewise a matter of satisfaction. Dr. Smith



Dr. Richard R. Smith, Grand Rapids, Michigan, appointed to succeed the late Dr. W. H. Sawyer as Regent of the University of Michigan.

has proved himself a man of ability in many ways. He has made a success of his professional career. This fact is a qualification to be strongly desired in a candidate for any public office. Too frequently public offices are held by men who are demonstrated failures in the ordering of their professional, commercial or industrial careers. He was assigned the task at one time of studying the hospital situation of this state; the exhaustive and carefully prepared reports which were published in Supplements to this Journal in July, 1927, and in November, 1928, are evidence of the care and ability Dr. Smith brings to his work.

He is an alumnus of the University of Michigan of the class of 1892 and has always had the interest of his alma mater at heart. He has carried on post-graduate work in medical centers in Germany as well as in Vienna. Dr. Smith has practised his profession in Grand Rapids since 1897, specializing in surgery and gynecology. He is chief surgeon and gynecologist of the

Blodgett Memorial Hospital of Grand Rapids as well as having been chief of staff. He assisted in organizing the Grand Rapids Clinic, which has since become recognized as one of the leading group clinics of the middle west. He organized and commanded Hospital Unit Q during the war and served with the American Red Cross Evacuation Hospital No. 5 near Paris and was later chief surgeon of Base Hospital No. 6, Talence, near Bordeaux, France. Dr. Smith, in addition to being a member of the Kent County, Michigan State and American Medical Associations, is also a member of the American Gynecological Society; he is also a member of the Board of Regents of the American College of Surgeons.

He has visited the clinics of Europe many times and has made one clinical tour of South America (1923) and another of New Zealand and Australia (1924) the latter in company with Dr. William J. Mayo and Dr. Franklin H. Martin. They were called upon frequently to discuss American Hospitals and their methods.

It is important that a member of the medical profession should be one of the Regents of the State University—not necessarily to represent the medical profession—owing to the fact that the University wields both directly and indirectly a large influence in connection with various factors that tend to promote the health of the state.

#### CONGRATULATIONS *DETROIT* *FREE PRESS*

On the day that this editorial is being written the *Detroit Free Press* has attained its first century. This is a matter for congratulation, which we heartily extend to our lay contemporary. The past hundred years, while a brief period in human history, is a long time in the history of the State of Michigan, if we may count time by the momentous events that have been chronicled during that period. The *Detroit Free Press* has maintained a reputation for reliability in the reporting of news, and its editorial judgment throughout the years has been on the whole sound. The fact that the *Free Press* has not only persisted, but has become one of the great newspapers of the country, is evidence of service rendered. It is an instance of the "survival of the fittest." To-day the editorial pages contain a variety of

interesting reading matter and the editorials appeal to one's sense of fairness; even in the instances in which the reader may disagree, they are at least thought stimulating. Had one access to the files of the *Free Press* for the last one hundred years he would have a complete history of medical progress, not to mention the history of progress in almost every other line of human endeavor.

Starting on the second century of its existence may the *Free Press* be guided by the same wisdom and well balanced judgment that has characterized its long history.

### POST-GRADUATE INSTRUCTION

The program of the Post-Graduate courses offered under the Department of Post-Graduate Medicine of the University of Michigan has been printed, and distributed to those who have made application. At present indications are that a large number of doctors are availing themselves of the opportunity to seek further knowledge and training in some phase of medicine or surgery in which they are interested.

Over half of the applications for Post-Graduate work in ophthalmology and otolaryngology had to be refused and the fee refunded to the applicants owing to the fact that more candidates for work in these departments applied than could be cared for.

### DR. OLIVER GOLDSMITH (*The London Lancet*)

Oliver Goldsmith, like Keats and Smollett, is known as a qualified doctor, but of the famous trio Smollett was the only one who ever practised his profession, and, it seems, the only one about whose actual qualifications there is no doubt. Goldsmith has been reported to have failed to obtain a license at Surgeons Hall, but there is some evidence now that he was M.D. Oxford ad eundem gradum. This fact has escaped the University records, but Sir William Osler discovered in a newspaper of the particular year, 1769, a note on the granting of the degree. An ad eundem degree is only conferred on those who already hold the same degree in a comparable university, and the note went on to state that Goldsmith was the recipient of a medical degree from Trinity College, Dublin. This fact also goes without substantiation from the University, but it appears from other evidence that the degree was granted in absentia, possibly for medical work done on the continent. So it seems that Goldsmith may have been a qualified doctor, but his short attempts to exercise his profession were unsuccessful.

A sketch of his life reaches us in the form of a communication made by Dr. J. N. Elliott Brown, of Toronto, to a local scientific society, in which the known facts are resumed and others are set out which will be novel to most readers. These make a vivid and attractive picture of a brilliant wayward man. Born of a gentle and absolutely improvident family, Goldsmith received a desultory education at Dublin University, learned French from some Catholic

priests whose acquaintance he made casually, and finally presented himself before a bishop to be examined for Holy Orders. He failed to satisfy the prelate of his suitability for the office of clergyman, and decided to enter the profession of law, having found here a financial backer in the person of a good-natured uncle Contarine. This again proved a false start, at which point he became a medical student in Edinburgh. Dr. Brown supplies interesting notes on the careers and characters of the Edinburgh savants, and tells in detail the story of Goldsmith's celebrated European tramp which lasted a year, and which, according to the traveller, included Leyden, Paris, Berne, Geneva, Milan, Florence, Venice, and Padua. "Goldsmith left Leyden on foot with a guinea," says Dr. Brown, "which he had borrowed, a shirt and a flute. His final objective was Padua, where the great Morgagni reigned supreme in the Italian medical world. It took Goldsmith ten months to reach his goal. Before starting he noticed some rare tulip bulbs in a shop, and recalling his good uncle Contarine's love of flowers, bought a supply of the bulbs and forwarded them to him." How many of the galaxy of eighteenth century physicians, physicists, and philosophers, who might have been met in such a wander-jahr, Goldsmith personally encountered is doubtful—certainly not all those whom he professed to have spoken with—but he seems to have included medical among his other experiences, even if his statement be not accepted that he received a medical degree at Padua.

Dr. Brown describes a man, brilliant with tongue and pen, charming, humane, and learned, who possessed no characteristics that would make it likely that he would succeed in the practice of medicine and many that would have antagonised his professional chances.

### PSYCHIATRISTS, ATTENTION (*The Manchester Guardian*)

It is said that there is a movement on foot in New York in favor of brighter clothes with gayer colors for business men and we might add professional men. The object being to correct moods of depression caused by the financial situation. The colorful male should be clothed in brighter tones when the times are hard and money is scarce.

Commerce may be doing rather badly,  
Business may be very far from bright—  
That is no excuse for dressing sadly  
Like a being bowed beneath a blight.  
Surely now's the hour for ostentation,  
Now's the time to have a gayer fling,  
And in moods of wilder decoration  
Blossom forth like radiant buds in spring.

Down with dismal patterns that dishearten;  
Up with tints that set the streets ablaze!  
Up with shepherd's plaid and bonny tartan;  
Down with sombre blacks and sober greys!  
Let's be done with sackcloth and with ashes  
Suitable for sad and sorry wrecks—  
Let your ties be full of spots and splashes,  
Let your breeks be gay with stripes and checks!

Not for me the garments of the dullard;  
Lo! I represent the manly strain,  
Eager emblem of the twopence coloured,  
Never of the poor and penny plain.  
At my coming deep depressions vanish,  
Markets start to rise instead of sink—  
Blues and all attendant gloom I banish  
Just by being plainly in the pink.

*Do not forget the date of the American Medical Association which meets this year in Philadelphia. The dates are June 8 to 12, inclusive.*

## THE PERFECT MAN

*(The Pennsylvania Medical Journal)*

The man who never makes mistakes in diagnosis, or commits an error of judgment in treatment, is sometimes a member of our medical societies. He never has any unpleasant complications in his surgical manipulations and his cases are particularly free from unfavorable sequels; uniformly good results and phenomenal success invariably crown his efforts. He is a complacent gentleman, extremely optimistic when reviewing his own handiwork, but cold, impartial and, perhaps, slightly hypercritical when surveying that of his confrères. He becomes particularly impressive when some younger man details the history of an unfortunate and unavoidable accident, or when some conscientious colleague makes a frank and truthful recital of his experiences. Then he manifests his surprise and, by his comments in the discussion, indicates his calm superiority and advertises his personal ability. He knows full well that society reports are often perused by credulous readers with more receptive minds than the actual auditors, and hence he looks carefully after the stenographer. Few, however, are deceived except himself and an occasional neophyte. Fortunately such men are but a small minority of contributors, and the papers and clinical reports are usually provocative of veracious and beneficial discussions.

## NOT EXACTLY A MEDICAL PROBLEM, BUT!

*(Indiana State Medical Journal)*

"Why is it that so many physicians never attend church?" was the question asked us recently. We may well ask why so many lawyers, judges, school teachers, and educated people in general are not included, for it is a well-known fact that a fair percentage of educated people are not churchgoers, and we think that it is up to the church to tell why. It isn't because these educated non-churchgoing people do not believe in some form of religion or have the greatest respect for the Bible and its teachings, but it is because they object to sitting for an hour and a half or two hours in a church where perhaps they must tolerate a lot of atrocious music, and listen to what for the most part are considered mediocre sermons that give the intelligent person not the slightest inspiration or enlightenment. Perhaps it will be said that some want their religion sugar-coated, but if it is the only way that you can get religion into some people then let them have it sugar-coated, but remember that some of the bitterest as well as most effective medicine may be sugar-coated and willingly and even agreeably taken by the patient with the most satisfying results. Not all ministers can be brilliant or entertaining, but the most of them could gather into their churches more of the intelligent class, to which we think physicians belong, if they put forth a little more effort to make their sermons interesting, or at least give their listeners something that can be taken away as worth while. Furthermore, many physicians think, as many others think, that if the churches generally would lay less stress on a creed that cannot be accepted in its entirety by even all their own members and is still less acceptable to outsiders, the churches would be more popular and receive more generous support.

*"Throughout the Middle Ages the periodic plagues that swept over Europe, trailing death, desolation and despair in their wake, were looked upon as acts of God. At last, however, the genius of medicine discovered the causes of disease and ended the terrors of the Black Death. In modern times the plagues that afflict us are these cyclical seizures of economic paralysis whose causes, still obscure, must be probed and removed."*—Atlantic Monthly.

## GENERAL NEWS AND ANNOUNCEMENTS

The editorial office of the journal, *Radiology*, formerly located in Chicago, is now located at 1201 Maison Blanche Bldg., New Orleans, Louisiana.

Dr. W. J. Stapleton, Jr., of Detroit, has been appointed acting chairman of the Medical Defense Committee made vacant by the death of Dr. F. B. Tibbals.

The annual commencement exercises in connection with the Detroit College of Medicine and Surgery will be held in the Masonic Temple at 3 P. M., June 18.

The Alumni Association of the Detroit College of Medicine and Surgery will hold its Annual Dinner and Class Reunion with annual meeting at the Statler Hotel, Thursday, June 19.

Dr. Richard R. Smith, of Grand Rapids, has been appointed by the Governor as a member of the Board of Regents of the University of Michigan to succeed the late Dr. W. H. Sawyer.

Dr. William Donald of Detroit gave an afternoon clinic at Lima, Ohio, before the Allan County and Lima Medical Society. In the evening Dr. Donald discussed the subject, "How State Medicine Appeals to Me."

Dr. and Mrs. H. Wellington Yates of Detroit spent a few days at Beaumont, Texas, where the doctor read by invitation a paper on The Use of Non-specific Protein in Gynecology, before the Texas State Medical Society.

The sixth annual meeting of Michigan Association of Industrial Physicians and Surgeons was held at Detroit April 23 and 24. A full program was presented. The papers and discussions will be published in a special volume.

The annual election of officers of the Wayne County Medical Society on May 19 resulted as follows: President, Dr. H. W. Plaggmeyer; president-elect, Dr. H. Wellington Yates; secretary, E. D. Spalding; trustee, Dr. J. M. Robb, the retiring president.

The regular May meeting of the Washtenaw County Medical Society was addressed by Dr. Paul W. Harrison who spoke on the subject, "Fourteen Years of Medical Service in Arabia," and also by Dr. Malcolm H. Soule on "Some Medical Problems in Porto Rico."

At the annual meeting of the Michigan Association of Industrial Physicians and Surgeons held in Detroit April 20 the following officers were elected for the ensuing year: President, Dr. Clarence S. Gorsline, Battle Creek; vice president, Dr. C. W. Brainard, Battle Creek; secretary, Dr. Frank A. Poole, Lansing.

A biographical sketch of the late Dr. Sawyer will appear in the July number of this Journal. Dr. Sawyer, who died very suddenly on April 28, was for a quarter of a century Regent of the University of Michigan, and during his long professional career he was closely and sympathetically identified with the medical profession of this State.

The Code of Ethics of Industrial Surgeons, as recommended by the Industrial Relations Committee of the Wayne County Medical Society, was approved by The Council of the Society on April 20. Subsequently this Code was approved by the Michigan Association of Industrial Surgeons on April 24. It is now being referred to the Michigan State Medical Society for its approval.

Dr. Burt R. Shurly left Detroit May 21 for Los Angeles to attend a meeting of the board of American Oto-laryngological Society and the Pacific Coast Eye, Ear, Nose and Throat Society. Dr. Shurly is one of ten members on the examining board of the American Oto-laryngological Society which will conduct examinations of physicians in Los Angeles, St. Louis, and Philadelphia.

One of the best attended meetings in the history of the Wayne County Medical Society was that of May 6th, when the Medical Society and the Detroit Bar Association got together to discuss matters of common interest. Dr. J. M. Robb, President of the Wayne County Medical Society, presided. Addresses were delivered by Dr. W. J. Stapleton, Jr.; Mr. Henry C. Walters, former President of the Detroit Bar Association; Dr. Louis J. Hirschman, past President of the Michigan State Medical Society; Dr. George McKean and Mr. Hanna.

A circular letter has been sent out under the auspices of the Joint Committee on Public Health Education inviting lecturers among the physicians of the State. A list of 115 subjects accompanies the letter. It is hoped that many will respond favorably to this invitation. The Health Department of the State has undertaken a comprehensive program of health education in the high schools of the State. Doctors will be needed to supplement this course of instruction. The classes will be smaller than the usual audience and therefore much easier to address.

#### AMERICAN MEDICAL GOLFING ASSOCIATION TOURNAMENT

Philadelphia, June 8, 1931

The Seventeenth Annual Tournament of the American Medical Golfing Association will be held in Philadelphia, Monday, June 8, at the Aronimink Golf Club instead of the Huntingdon Valley Country Club, as announced in the Brochure of the Association which was recently mailed to members. The Aronimink Golf Club is modern; the course is in splendid condition and is interesting and sporty. The Local Committee is doing everything possible to make the tournament a great success. The Philadelphia men composing the Local Committee on Arrangements are Dr. John W. Croskey, Chairman; Dr. Willis F. Manges, Dr. Fred H. Leavitt, Dr. Frank J. Kelly, and Dr. Damon B. Pfeiffer.

Membership in the American Golfing Association is open to any male Fellow of the American Medical Association in good standing. It is hoped that many of the medical golfers throughout this State will join the Association this year and take part in the

Philadelphia tournament. There will be many attractive and valuable prizes awarded at the Annual Dinner, to be held on the evening of the day of the tournament at the Club House. For any additional information, communicate with any member of the Local Committee, or with the Executive Office, 1124 Maccabees Bldg., Detroit, Michigan.

#### NORTHERN TRI-STATE MEDICAL SOCIETY

The 58th annual meeting of the Northern Tri-State Medical Society was held in Ann Arbor on the 14th instant. A record breaking crowd of 350 was in attendance. The University of Michigan Medical Department was host to the gathering. Morning Clinics were given in the University Hospital by Professors C. C. Sturgis, John Alexander, and Frank Wilson.

The afternoon session was held in the Natural Science Building, addresses and papers being given by Dr. Arnold Jackson of Madison, Wisconsin, Dr. L. J. Karnosh of Western Reserve University, Dr. Norman F. Miller of the University of Iowa, Dr. E. B. Gillette of the University of Toledo, and Dr. P. F. Morse, Pathologist to Harper and Children's Hospitals, Detroit, Michigan.

A banquet was tendered to the members in the evening at the Michigan Union, and was followed by addresses from Dr. W. W. Babcock of Temple University, Philadelphia, and Dr. Geo. Crile of Western Reserve, Cleveland, Ohio.

The officers elected for the ensuing year were: President, Dr. C. D. Camp, Ann Arbor, Mich.; vice president, Dr. Senseny, Fort Wayne, Indiana; secretary, Dr. Edward B. Pedlow of Lima, Ohio; treasurer, Dr. G. O. Larson of LaPorte, Indiana. Councillors from the three states were: Dr. J. C. Fleming, Elkhart, Indiana; Dr. H. E. Randall, Flint, Michigan; Dr. Chas. Lukens, Toledo, Ohio. Toledo was selected for the next meeting in April, 1932.

## DEATHS

HUGH A. HAGERTY, M.D.  
1874-1931

Another well known member of our Society passed away Saturday, April 4, 1931, when Dr. Hugh A. Hagerty was called to his reward. Dr. Hagerty was born in Fredericktown, Ohio, in 1874 and received his early education there and in Cleveland. He graduated from the Cleveland-Pulte Medical College in 1898 and came to Grace Hospital, Detroit, for his interne training. He supplemented his medical studies in this country with postgraduate work in Scotland.

In 1906, Dr. Hagerty became a member of the Grace Hospital staff and continued this connection until the time of his death, when he was attending surgeon in the Surgical Division. Despite a protracted illness of two years, Dr. Hagerty continued his professional labors almost till the time of his decease. Aside from his membership in the Wayne County, Michigan State Medical Societies and the American Medical Association, Dr. Hagerty was a Fellow of the American College of Surgeons and a member of the Detroit Athletic Club. His Masonic connections were extensive, including the Corinthian Lodge, F. and A. M.; Damascus Commandery, Knight Templar, and Moslem Shrine. He leaves a widow, Mrs. Angenette Hagerty.—*Wayne County Medical Society Bulletin.*

## DR. FRANK BURR TIBBALS

By C. E. SIMPSON, M.D.

DETROIT

With the passing of Frank B. Tibbals on April 22, 1931, the medical profession of Michigan lost one of its staunchest supporters. As Chairman of the Medical Defense Committee ever since the formation of that body, he was known throughout the State for his loyalty to his fellow practitioners and his willingness to help wherever help was needed.

This loyalty to his friends was one of his chief characteristics. Graduating from Yale in 1888, he kept up a contact with the members of that class to the end of his life. As late as February of this year he went to Washington to attend a dinner given the class by Secretary of State Stimson. Always was he interested in the achievements of the "boys of '88" and always strong in expressing his loyalty to them.

The same trait was even more conspicuously shown in his relation to his medical class, '91, University of Michigan. For years Dr. Tibbals had been class secretary, keeping track of each member as far as he could, noting deaths and removals, and sending a characteristically humorous and cheery letter each year. Class reunions were numerous and usually well attended. That the class recognized his large part in keeping alive class interest and arranging class affairs, was shown some years ago by their gift to him of a silver loving cup, suitably engraved; a gift which moved him nearly to tears, and which he always kept on his desk—a constant reminder of the group he loved.

We would expect a man with so strong a capacity for friendship to be among the leaders in any group with which he became associated, and such was the case. In the Wayne County Society he was its first President and for some time Treasurer. When the agitation for a meeting place and club rooms of our own was started, Dr. Tibbals was one of the most active in getting the needed subscriptions. This interest never failed. Habitually, even when the Society's rooms were moved to their present location, which meant his driving some distance to reach them, "Pop," as the younger men affectionately called him, lunched at the Club.

A member of the Detroit Curling Club until a short time before his death, he was for years Chairman of its Games Committee and participated in its contests both here and out of town. This was his main active recreation and to it he gave his enthusiastic support.

In social organizations The Ingleside Club counted him a member and he belonged to Palestine Lodge, A. F. and A. M., Detroit Chapter R. A. M., Monroe Council R. and S. M., Detroit Commandery No. 1, K. T., and to Moslem Temple of the Mystic Shrine.

To make the record complete mention should be made of some of the important events of his life. Born in Salem, Michigan, 1864, graduated from Yale in 1888 and from the Medical department of the University of Michigan in 1891, married Laura A. West in 1893, and practiced his profession in Detroit for thirty-nine years. For some time in his early years Dr. Tibbals was associated with Dr. Donald McLean, later with Dr. Theodore McGraw, and for a number of years with Dr. Frederick W. Robbins. Following his early taste and training he specialized in surgery, becoming Junior Surgeon at Harper Hospital, and Consulting Surgeon on the staff of the Woman's Hospital.

He was one of the early Detroit Fellows of The American College of Surgery. In addition to the State and National Medical organizations, he was a member of the Detroit Academy of Medicine. His work in organizing and heading medical defense in

the State gave him a prominence which resulted in his being Professor of Medical Jurisprudence at the Detroit College of Medicine and Surgery for fifteen years.

It is for his work in the Medical Defense Committee that he is best known to the profession today. This was real pioneering and grew out of an experience of his own in which he won his case only when coöperation on the part of medical witnesses was secured. As has been previously mentioned, he was the Chairman of this Committee. He was more than that. He was really the Committee. This work brought him in touch with the profession all over the State. He not only performed the usual duties of the Committee, but he gave freely of his advice to any physician who needed it and by his genuine interest and sympathy, gave many a troubled doctor confidence and courage. Many letters from doctors whose fights he made his own, were among Dr. Tibbals' possessions; letters that left no doubt of the gratitude of the writers.

In his chapter on Medical Defense in the recently published Medical History of Michigan, the doctor gives numerous accounts of suits contested by the Committee. These accounts are given by Dr. Tibbals with vividness and they make interesting reading, but no one knows the worries and anxieties behind them, cares to a large measure taken off the shoulders of the physicians by the Committee—no one but that same Committee. To the last he was helping the profession to avoid trouble, as is shown by his letter on the importance of X-ray examinations that appeared in a recent number of the Journal. Probably no other man has done anything like as much to bring about loyalty, friendliness and coöperation in the profession of Michigan.

Such, in brief, is a recital of the career of one of our best known members. A career, shorter than many, filled with active service and characterized by a fine loyalty to the group that we may well imitate. He leaves his wife and two married daughters in addition to a host of friends, both inside the profession and out, who will always be the richer for having known Frank B. Tibbals.

## SURVEY SHOWS COUNTRY'S HEALTHIEST YEAR WAS 1930

Health workers are now wondering whether the health record for 1931 can be made to equal or better that of 1930.

In spite of business depression and unemployment, 1930 was the healthiest year this country ever enjoyed, according to statistical reports of the Metropolitan Life Insurance Co. just issued. The company's reports refer particularly to the industrial wage-earning population of the United States and Canada.

Notable reductions in the death rate for tuberculosis, typhoid fever, the principal diseases of childhood, and pneumonia were found. The number of deaths from tuberculosis, diphtheria, and diseases of pregnancy and childbirth reached new low points.

Suicides increased markedly, but this death rate was lower than previous high figures recorded in the period from 1911 to 1916.

The cancer death rate increased very slightly.

Deaths from accident were fewer during 1930 than in the previous year. This includes automobile fatalities, which for the first time in 20 years showed a decline in the company's reports. However, the drop was so small as to be considered of slight significance by statisticians of the company.

The U. S. Bureau of Census has just reported an increase of 2 per cent in automobile fatalities throughout the country for the period from January 25, 1930, to January 24, 1931.—*Science Service.*

## SOCIETY ACTIVITY

### AN APPRECIATION

Burr, Sawyer, Tibbals! Their deaths during April drafted from our ranks three outstanding men of the profession in Michigan. Men whom we can ill afford to lose. Men who were dependable advisors and counselors.

Our contact with Dr. Burr extended over a period of twenty-five years. As Councilor, President, fellow member on the Board of Registration, Historian and Committeeman our association was continuous. It brought a full realization of his capabilities, his stable judgment, his kindly nature and unswerving friendship. He inspired, he guided, he aided in causing us to avoid errors and at all times he was ready and willing to respond to enhance the profession's welfare.

It was under Dr. Sawyer's term as President that we assumed the office of Secretary. During the succeeding years he always was found ready to aid and advise. Never did we seek his counsel in vain. He was intensely interested in all medical affairs and ever eager to further the objectives of our society. A holiday season never passed but what he penned and sent a personal greeting filled with cheer and encouragement. Treasured as we have, these annual expressions, we are not violating a valued friendship when we impart his last letter of December 23, 1930, it reveals the kindly spirit of a dear and prized friend.

My dear Warnshuis:

I do not forget your thoughtfulness and sympathy when Hattie died. I cherish it and placed it with things I treasure. I do not think you can realize what your friendship means to me through all my trials.

You have always been so good to me that my debt of gratitude overwhelms me. I wish I might in some better way signify my appreciation. I am proud of your friendship and of you. Your success has given me as much joy as it could you. To have been Speaker of the House of Delegates of the A. M. A. is a signal honor and to have held it year after year is especially distinctive.

I hope the years may not be long enough to dim our friendship. May the yuletide season bring to you all the happiness earned by a life of sacrifice to a common welfare.

Your friend,  
WALTER H. SAWYER.

This imparts an insight to a man, who, though great, was ever thoughtful of those who were his friends and placed them above himself, unworthy as we were.

It is over twenty years that we first met Dr. Tibbals. In the House of Delegates at an annual meeting in Kalamazoo, we were drawn to him as he advocated and accomplished the institution of the Society's Medico-Legal Defense plan. As is known, he fathered this plan most successful during all these years. His was a unique character, which drew to him numberless friends, and by his friendship inspired many of us to call him "Pops". His services upon the Medico-Legal Committee could never be compensated. His legal mind and medical knowledge caused him to bring to all members a sustaining encouragement when threats or suits were pending. "Pops" was always one of the boys and a friend ever to be relied upon.

And now they have gone on. Singularly the summons for each was sudden and without a warning illness. They passed on in the midst of activity. Well on in years, yes, but the hope had always been that they would be spared to all of us for many years yet to come. We can ill afford to lose their leaderships, their counsel and their friendship.

Sacred memories shall ever be ours. We shall be ever grateful that we were privileged to be associated and inspired by them.

"The deeds of their lives will be treasured,  
To be lived by us and preserved."

\* \* \*

### OBSERVATIONS

You have time to engage reservations for the Philadelphia session of the A. M. A. It promises to be an excellent meeting. Better go.

\* \* \*

Conferences and Post-graduate Clinics were held in Manistee, Alpena and Marquette during May. The minutes of the special meeting of the Council on May 19th will be found in this issue.

\* \* \*

Numerous inquiries are coming in from out of the state, seeking locations for practice. Doctors feel the economic depression. Apparently, they think, other fields are greener and more lucrative. The advice is to stay where you are. We, in Michigan, are struggling too.

\* \* \*

The State Board of Registration Examinations will be conducted jointly in Detroit and Ann Arbor on June 15th, 16th and 17th.

\* \* \*

Dr. Gibbons, president of the California

Medical Association makes the following observations that may well be applied in this state:

"(3) *We do not exhibit cohesion or concert of action.* We do not organize strongly. Comparatively few individuals will put themselves out for the good of the group.

"Any Rotary Club can get more done than any medical group and in a minute fraction of the time. The reason is, Rotary is a unit. A member must pull his own weight, must work, and must attend meetings, or else get out and make room for some one who will. Rotary publicity is faultless. Whatever individuals may be or do, Rotary principles receive the publicity, and the principles are easily understood and above reproach. Did you ever hear of an individual Rotarian making comment or expressing opinions on Rotary business for public consumption? No.

"Unhappily, the medical man dearly loves to express minute variations in non-essentials. It is not undignified to say the same thing in the same way as one's confrères or to find out from one's associates what others are doing and thinking, but it is not necessary to engage in quarrels over minor differences of opinion. The newspapers and the public love an internal scrap, but our prestige falls every time it happens.

"Why is it that when a man gets in the limelight he is so prone to make statements at variance with the best interests and expressed policies of his confrères? He knows that the newspapers will use his words as they see fit. Sadly enough, he is often willing to talk without knowledge of his subject. He seems to feel that he acquires virtue by his puny exhibition of independence. He makes himself—and the rest of us—ridiculous. The public is delighted when newspapers provoke acrimonious discussions."

\* \* \*

Our Annual Meeting in Pontiac, September 22, 23, and 24 will witness the 100th anniversary of the Oakland County Medical Society. Special program features will characterize that celebration. Oakland County members promise to be ideal hosts. Committees have been busy for five months and will continue active to prepare for your coming. Watch the Journal for future announcements and note the date.

\* \* \*

Invitations for the 1932 Annual Meeting

must be in the Secretary's hands thirty days before this year's annual meeting. County Societies desiring to be hosts in 1932 should bear this in mind.

\* \* \*

Why not order a set of Medical History of Michigan? You need these two volumes. The price is \$10.00. Your delegates directed its publication and in doing so acted in your behalf. They incurred an obligation of some \$7,000.00 for you, order your set and wipe out this obligation.

\* \* \*

Some members in each county are still delinquent in 1931 dues. Assist your local secretary by sending him your check. Remember you lose Medico-legal protection during your suspension. Much against the committee's desire defense was denied last month to two members who were sued for services rendered during their delinquency. In these days of many suits it might be possible for you to find yourself in such a position. Avoid it by paying your current dues. You can not afford to let them lapse any more than you can afford to lapse on your life or accident policies.

\* \* \*

We are in entire sympathy with our members living in Michigan resort centers who object to out of state doctors coming to these resorts and practicing. If there are such who do so without a Michigan license we will be prompt in instituting proceedings to terminate such competition.

\* \* \*

Better plant a few extra hills of potatoes and more cabbage. Raise a pig or two for winter killing and put a few nickles in a saving account. It's going to be a hard winter.

## COUNCIL MEETING

This issue contains the minutes of the Special Meeting of the Council held on May 19th. The discussions of the afternoon session will be published in the July issue.

It will be apparent that the Council concerned itself with important issues that affect and are of interest to the profession. It is evident that the Council is alert to its responsibilities and is representing the profession in these recent state movements that are related to public health.

The Council urges that every member in-

form himself as to the activities of his society and the problems that confront the profession today.

### POST GRADUATE CONFERENCES

The following was the program for the Conference held in Alpena on May 21:

#### PROGRAM

- 10:00 a. m. Dermatological Clinic  
DR. HARTHER L. KEIM, Detroit
- 12:15 p. m. Luncheon
- 1:30 p. m. Scarlet Fever, Prophylaxis and Treatment.....DR. JOHN E. GORDON, Detroit
- 2:15 p. m. Appendicitis. Differential Diagnosis and Treatment  
DR. GROVER C. PENBERTHY, Detroit
- 3:00 p. m. Treatment of Pre-paralytic Poliomyelitis.....DR. JOHN E. GORDON, Detroit
- 3:45 p. m. The Care of Fractures  
DR. GROVER C. PENBERTHY, Detroit

The following program was carried out in Manistee on May 13:

Mercy Hospital  
Wednesday, May 13, 1931  
Manistee, Michigan

Presiding: O. L. Ricker, M.D., Councilor, Cadillac

#### PROGRAM

- 10:00-12:00 a. m. Surgical Clinic
1. Treatment of Varicose Veins with Demonstration of Technique
  2. Appendicitis
  3. Newer Anesthesia  
Frederick A. Collier, M.D.,  
Ann Arbor, and Associates
- Afternoon Session*
- 12:00 m. Luncheon—Medical Problems  
F. C. Warnshuis, M.D., Grand Rapids
- 2:00-4:00 p. m. Preventive Medicine—Demonstration of Immunization Methods  
C. C. Young, M.D., Lansing
- 4:00-4:30 p. m. Mouth Lesions of Medical and Dental Interest  
J. W. Kemper, M.D., Ann Arbor

### HOXSEY CONVICTED

In February, one Mr. Hoxsey, who had posed as able to cure cancer, and who, it has been reported, was convicted of illegal practice in Illinois and Iowa, came to Detroit. A so-called Cancer Clinic was opened on Woodward Avenue. A certain Dr. Van Hyning associated himself with Hoxsey. There was the usual publicity, claims and radio broadcasting.

Within a month Hoxsey was arrested for practicing without a license. At his trial, May 7-8, the jury convicted him. Dr. Van Hyning's license to practice was revoked on March 30. The license of the radio station

that permitted Hoxsey to broadcast was suspended by the Federal Radio Commission in April after complaint had been filed.

Michigan authorities do not fool. They promptly terminate law violations.

### SCIENTIFIC EXHIBITS

Two years ago Dr. German assumed directorship of the Scientific Exhibits at our annual meeting. Through persistent effort and thought Dr. German is accomplishing a most commendable educational feature for our annual sessions. An increase of exhibits is planned for this year. New viewing boxes and racks are being provided. Certificates of awards and merit will be conferred.

Members are urged to write to Dr. W. K. German, Pathologist, Blodgett Hospital, Grand Rapids, for entries, information and space required. Please call the attention of your pathologist and roentgenologist to this scientific exhibit. Aid in making it an outstanding feature of our meeting.

### MINUTES OF THE SPECIAL MEETING OF THE COUNCIL OF THE MICHIGAN STATE MEDICAL SOCIETY

1. Pursuant to the call of the Chairman the Council of the Michigan State Medical Society met in special session at the Statler Hotel, Detroit, Michigan, at 12:30 P. M., Tuesday, May 19, 1931.

Present: B. R. Corbus, Chairman; R. C. Stone, President; C. F. Moll, President-Elect; F. C. Warnshuis, Secretary.

Councillors: C. E. Boys, C. A. Neafe, O. L. Ricker, G. C. Hafford, T. H. Heavenrich, A. S. Brunk, P. R. Urmston, Julius Powers, H. R. Carstens, J. E. McIntyre, Henry Cook, James D. Bruce.

As invited guests and participants in the discussion of the special session there were present:

Dr. Bernard W. Carey, Children's Fund of Michigan.

Dr. R. E. Patterson, President, Mich. State Dental Society.

Dr. C. C. Slemons, State Commissioner of Health.

Dr. B. A. Shepard, President, Michigan Tuberculosis Assn.

Mr. Theodore Werle, Secretary Michigan Tuberculosis Assn.

Dr. E. J. O'Brien, President, Michigan State Sanatorium Commission.

Dr. A. H. Whittaker, Legislative Committee.

Dr. J. D. Robb, President Wayne County Medical Soc.

Dr. H. W. Plaggemeyer, President-Elect Wayne County Medical Society.

2. The Chairman of the Council made an opening statement as to the purpose of the special session and then called upon the representatives of these various organizations for the purpose of imparting the programs and policies of their respective organizations and indicating how and in what manner the State Medical Society may be of assistance as well as to cooperate with them in the attainment of their objectives. (These addresses, discussions and comments will appear in the July Journal, in detail.)

3. Following these discussions the Council recessed until 6:30 p. m.

4. The Council reconvened at 6:30 p. m. at the Statler Hotel with Chairman Corbus presiding and all those who had registered at the afternoon session present.

5. The Secretary presented a report on the sale of the Medical History. This was discussed and upon motion of Bruce-Cook the question of increasing the sale of our history was referred to the Executive Committee.

6. The Secretary presented artist's drawing of the proposed president's badge. Upon motion of Powers-Urmston, a badge was approved and the Secretary instructed to secure a sufficient number for presentation to presidents and that the insignia of the badge be adopted as the official insignia of the Michigan State Medical Society.

7. The Secretary presented blue prints of viewing boxes for scientific exhibits at our Annual Session and imparted the recommendation of the chairman of the scientific section that ten such viewing boxes be purchased at an estimated cost of \$57.00 per viewing box. Upon motion of McIntyre-Neafie, the Secretary was directed to purchase these viewing boxes.

8. The Secretary presented the action taken by the House of Delegates directing that at each Annual Session a memorial exercise be held for our deceased members. Upon motion of Boys-McIntyre, the Secretary was directed to arrange for such me-

morial feature in connection with the first general session of each Annual Meeting.

9. The Secretary presented a communication from Dr. Evans in which he inquired whether the State Medical Society would be willing to join him in a test court case to determine the ownership of X-ray films. Upon motion of Bruce-Hafford, the Secretary was directed to secure the opinion of Mr. Barbour as to the advisability of such a joint court procedure and report this opinion to the Executive Committee, who shall be empowered to determine whether or not the Society participate in such a suit.

10. The Secretary presented a communication from Dr. Frank T. McCormick of Detroit enclosing a Code of Ethics, adopted by the Michigan Association of Industrial Physicians and Surgeons, and requesting that the State Medical Society approve this code. After some discussion it was moved by Carstens-Powers, that the Council endorse the principles incorporated in the code as an interpretation of the principle of ethics of the American Medical Association in regard to the physician's relationship to industrial medicine and surgery, and that this code be referred to the next session of the House of Delegates for final action.

11. The Secretary presented the following communication from Dr. W. J. Stapleton, Jr., Acting Chairman of the Medico-Legal Committee.

May 12, 1931.

The Council of the Michigan State Medical Society: Gentlemen:

Pursuant to your letter of April 23, 1931, a copy of which is attached to this report, I took over the files of the Medico-Legal Committee that were in the offices of the late Dr. Tibbals and also got in touch with Mr. Barbour, the attorney.

Secondly, the meeting of the Committee was called on Thursday, May 7, in the Wayne County Medical Society club rooms in Detroit. Drs. Bruce, Manwaring, and myself were present. Dr. Angus McLean telephoned and said he would be unable to be present on account of an emergency case. He gave me his proxy.

Third, the following recommendations were made: 1. The Council to appoint a successor to Dr. Tibbals; 2. The Committee recommended that the work of the Medico-Legal Committee be continued as in the past.

It is the sense of the Committee that the Society has suffered a great loss in the death of Dr. Frank B. Tibbals, who has carried on this work so faithfully for the past twenty years.

Appended is a report of the financial condition of the Medico-Legal Committee which was received from Dr. Warnshuis, Secretary of the State Medical Society. The Committee spent considerable time in reviewing the cases and correspondence received from Dr. Tibbals' office. It will require considerable more time to classify this information and get it in workable shape. I am also enclosing a short re-

port from our attorneys covering the cases they have in their files at the present time. This is by no means a complete list.

Respectfully submitted,

WM. J. STAPLETON, Jr., M.D.

April 23, 1931.

Dr. Wm. J. Stapleton,  
404 W. Fort St.,  
Detroit, Michigan.  
Dear Dr. Stapleton:

It is my pleasure and official duty to advise you that President Stone has appointed you as Acting Chairman of our Medico-Legal Committee because of the vacancy caused by the death of Doctor Tibbals.

I am further directed to instruct you to assume charge of the medico-legal files that are in Dr. Tibbal's office and jointly with Mr. Barbour protect the members against whom suits have been filed.

The request is also made that you call a meeting of the Medico-Legal Committee, at your earliest convenience, and that your committee review the situation and formulate recommendations to be presented to the Council. Inasmuch as the Council is going to meet in special session on May 19, at the Statler Hotel, Detroit, for the consideration of several other medical problems related to our organization, it is recommended that your committee have a report ready so that the Council may act upon it at their special session.

Please be advised that if there is any personal assistance that this office can give you, you have but to command me.

Yours very truly,

(SIGNED) F. C. WARNSHUIS, M.D., Secretary.

Upon motion of Bruce-McIntyre this report was adopted.

The By-Laws provide that the Council shall elect the members of the Medico-Legal Committee and also elect a Chairman. The By-Laws provide, further, that in case of vacancy such vacancy shall be filled by the President by and with the advice of the Council. In conformity with these provisions Councilor Bruce nominated Earl I. Carr of Lansing as a member of the Medico-Legal Committee to succeed Dr. F. B. Tibbals, deceased. Upon motion of Powers-McIntyre, the Secretary was directed to cast the Council's ballot for Dr. Carr. The Secretary did so cast and the Chairman declared Dr. Carr elected as a member of the Medico-Legal Committee.

President Stone presented to the Council his appointment of Dr. W. J. Stapleton, Jr., of Detroit, as Chairman of the Medico-Legal Committee. Upon motion of McIntyre-Heavenrich, the Council confirmed this appointment.

12. The Secretary presented the following communication from the Chairman of the Committee on Civic and Industrial Relations:

March 24, 1931.

Dr. F. C. Warnshuis,  
Sec. Michigan State Medical Society,  
Grand Rapids, Mich.  
Dear Doctor Warnshuis:

The Chairman of the Civic and Industrial Relations Committee met with the Legislative Committee

in Lansing, Saturday, March 21. At this meeting the Legislative Committee requested that the Civic and Industrial Relations Committee take up the problem of requesting the various County Societies to appoint a Civic Relations Committee, the function of the County Civic and Industrial Relations Committee to be that of studying civic problems in the various communities, to provide for a corps of speakers to be placed at the disposal of Parent Teachers Associations, Associations of Commerce, organizations of dentists, attorneys, churches, manufacturers, etc., the idea of this being that in the future, by conducting campaigns of publicity through these organizations as well as the newspapers, the public will gain a better conception of the intentions and relations of the medical profession to the community.

The idea of the appointment of a County Civic and Industrial Relation Committee is an outgrowth of the present controversy over the legislation of the Chiropractic Bill.

The Chairman of the Civic and Industrial Relations Committee wishes to be authorized, if it meets with the approval of the council of the State Society, to communicate with every County Society, either direct or through the Secretary of the State Society, urging that such a local committee be appointed. The Chairman of the Civic and Industrial Relations Committee further wishes to be authorized to follow up this correspondence by sending out members of the committee to the various localities to inspire the committee to become active.

The Legislative Committee has requested that the Chairman of the Civic and Industrial Relations Committee meet with them every Saturday night in Lansing during the present session of legislature. If this is the wish of the council, will you kindly authorize my expenses for these weekly trips to Lansing?

Kindly take this matter up with the council and let me know their decision.

Sincerely yours,

HARRISON S. COLLISI, M.D.

Chairman, Civic and Industrial  
Relations Committee.

After considerable discussion upon motion of Hafford-Carstens, the Secretary was directed to inform the Chairman that by reason of the experiences of the councilors and officers of the society it was deemed advisable to concentrate all county activities in the officers, or the Executive Committee, or the Board of Directors of county medical societies, and that it was not deemed to be to the best interest of the society to appoint numerous and varied state or local committees because our past experiences have been that greater ends were attained when concentrated effort was exhibited in conformity with the general policies and program of the State Society. This motion was carried and the Secretary was directed to so advise the committee.

13. The Secretary presented the following communication from the Legislative Committee:

April 10, 1931.

Frederick C. Warnshuis, M.D.,  
Grand Rapids National Bank Bldg.,  
Grand Rapids, Mich.

Dear Doctor Warnshuis:

The Legislative Committee, as the result of the appearance of numerous bills which have passed, would enlarge the scope and authority of the Governmental Health Agencies, and have voted to call to the attention of the Council the fact that there is very great interest regarding the extent to which the county health unit plan should be placed in effect. We believe that this matter should be given full publicity so that all physicians will be thoroughly informed regarding the growth of this movement and its future possibilities.

The committee suggests that the council appoint a special committee to study the problem of Public Health in Michigan, so that it will be definitely understood by the practitioners of curative medicine and the public health workers the exact relationship between the two groups and the place that each should assume in improving the health of the people of Michigan.

Among the average physicians there is widespread interest in this question of socialized medicine and I believe that the State Society will be doing a great favor if they will make a thorough study and present definite rules to govern the future conduct of the profession in regard to this matter.

Yours sincerely,

A. H. WHITTAKER, M.D.

After considerable discussion it was moved by McIntyre-Heavenrich, and carried, that the Secretary answer the communication received and point out that the Council is actively alert and interested in the several health units that are functioning in the state; that the Council and the Executive Committee have frequently met and discussed with representatives of health organizations and officials and those who are directing the activities of special foundations; that the Council point out the fact that this special session evidences the interest and activity recorded by the Council in these subjects; and that the Council purposes to continue to represent and conserve the interest of the profession in all health activities that are now being conducted or that may be advanced in the future.

The Secretary is hereby instructed to publish in full detail the discussions that were engaged in during the afternoon session of this special meeting, and that he prepare a synopsis of these discussions to be sent to the officers of each county medical society and that he further prepare a questionnaire which shall be sent to the individual doctors in the counties in which health units are now established and in which the foundations in Michigan are active; that he shall compile the information obtained from these questionnaires and that he shall refer this com-

pilation to the Executive Committee, and that the results and recommendations of the Executive Committee, formulated upon the answers received from these questionnaires, shall be incorporated in the annual report of the Council to the House of Delegates. This action was adopted by the Council.

14. The Secretary presented the following communication of the Michigan State Tuberculosis Society:

RESOLUTION ADOPTED BY THE BOARD OF TRUSTEES OF  
THE MICHIGAN TUBERCULOSIS ASSOCIATION

Olds Hotel, March 5, 1931

In order that the medical program proposed by the Medical Advisory Committee may be most effectively realized, be it resolved:

*First.* That responsibility for the medical work of the Association be vested in a permanent Medical Committee to be constituted of the medical members of the Executive Committee augmented by the following:

1. The Chairman of the Council of the State Medical Society.
2. The Chair of Medicine at the University of Michigan.
3. The Chair of Post Graduate Medicine at the University of Michigan.
4. Commissioner of Health of the State of Michigan.
5. The Health Officer of the City of Detroit.
6. Professor of Public Health and Hygiene of the University of Michigan.
7. Director of medical work of the Children's Fund of Michigan.
8. Director of medical work of the W. K. Kellogg Foundation.

*Second.* That the medical department of the Michigan Tuberculosis Association be assigned to the Department of Post Graduate Medicine of the University of Michigan and the Michigan State Medical Society, where it shall be administered and controlled by the head of the Department of Post Graduate Medicine of the University of Michigan and the Michigan State Medical Society with the permanent Medical Committee of the Michigan Tuberculosis Association acting in an advisory capacity.

*Third.* That the plan for medical work here referred to be adopted to function for three years, unless terminated earlier by mutual agreement of the interested parties, after which time it will again formally come before this body for review and reconsideration.

*Fourth.* That the Michigan State Tuberculosis Association, provided that the Post Graduate Medical Department of the University and the State Medical Society agree to assume the responsibility previously mentioned, will finance with reasonable sum of money the medical program which will be conducted by the above mentioned organizations, with the understanding that proper recognition of the Association's financial backing be made as work is carried out.

*Fifth.* That inasmuch as the Michigan Tuberculosis Association has previously had a medical department with certain specifically trained personnel in this field, that the Michigan Tuberculosis Association Board of Trustees would look with favor on the use of this personnel in the carrying out of this program under the new auspices.

*Sixth.* That for the balance of the present year 1931 the Medical Advisory Committee be continued

as the Permanent Medical Committee of the Michigan Tuberculosis Association with the understanding that the committee as outlined in paragraph one be set up with the next annual meeting of the Association.

It was moved by Brunk-Neafie, that the proposal of the Michigan Tuberculosis Society as revised and printed above be approved and that the State Medical Society in conjunction with the department of Post Graduate Medicine of the University of Michigan accept this tender and assume this activity of post graduate education in the conducting of diagnostic clinics for tuberculosis.

15. During the afternoon session Dr. Carey presented an invitation from the Children's Fund of Michigan to the Michigan State Medical Society to appoint a representative of the society to serve upon the advisory medical committee of the Children's Fund. Upon motion of Bruce-McIntyre, this invitation was accepted and the Council elected the Chairman of the Council as the society's representative upon this advisory committee.

The Secretary was directed to address a letter of appreciation and thanks to Dr. Carey for this invitation on behalf of the Children's Fund, and also to express the Council's appreciation to him for his participation in the afternoon discussion and his expression of the desire of the Children's Fund to work in close coöperation with the medical profession of Michigan.

16. The Chairman of the Council announced the appointment by the Governor of Dr. Richard R. Smith of Grand Rapids as a member of the Board of Regents of the University of Michigan to fill the unexpired term of Dr. W. H. Sawyer, deceased. Upon motion of Heavenrich-Powers, the Council instructed the Councilor of the Fifth District together with the Secretary of the State Society to arrange for and tender a dinner complimenting Dr. Smith.

17. The Council discussed some of the legislative problems that confront the profession in this state. No definite action was taken other than to instruct Dr. Bruce to confer with the Chairman of the Legislative committee and to present the information obtained at this conference at the next meeting of the Executive Committee.

18. Upon motion of Ricker-Brunk, the Council decided to convene in regular ses-

sion at 3:00 p. m. on Monday, September 21, 1931, in Pontiac.

The Council adjourned at 10:30 p. m.

F. C. WARNSHUIS,  
Secretary.

### W. H. SAWYER

On Tuesday, April 28, 1931, occurred the sudden death of Dr. Walter Hulme Sawyer. Dr. Sawyer was stricken while playing golf with a party of friends and death followed immediately.

As we recount the varied activities in the life of Dr. Sawyer we are impressed anew with his versatility. First of all, we of the profession recount his achievements as a physician; the conscientious practitioner; the wise counselor; the skillful surgeon, giving of himself unstintedly for the health and welfare of his fellowmen. The profession of the state recognized the high quality of his work, counted him as a leader in the medical field, and gladly bestowed honor after honor upon him. But tributes in even a gentler tone are his today; these are the unrecorded ones which rise to the lips of people in every walk of life, whom he has served so unselfishly and so well. He was indeed "the Beloved Physician."

Always interested in things educational, he found time in his busy life as a doctor, to lend extraordinary service in this line to both his community and the state. He served on the Board of Education in Hillsdale for 36 years, was a member of the Board of Trustees of Hillsdale College for 35 years and for many years was a member of the prudential committee of this body. For 26 years he was a member of the Board of Regents of the University of Michigan. His clear judgment and wisdom have had much to do with molding the future policies of the institutions of learning in our state. In 1926 Hillsdale College conferred upon him the degree of Doctor of Laws.

Naturally a leader, his friends were constantly calling upon him for his services, particularly in discussion at medical meetings where he was an able, brilliant speaker. Also in a legislative way was his power felt, and his contribution for constructive medical legislation can not be calculated.

But above all and shedding its radiance throughout his life was his capacity for loyalty and friendship. His loyalty to his profession, his community, his Church, his friends was inspirational to all who were fortunate enough to know him. His was a rarely sweet spirit. How vividly we recall that prompt, able, kindly helpfulness that was such an integral part of his personality. Its benediction lingers. His life was an exemplification of the thought expressed by Ella Wheeler Wilcox:

"So many gods, so many creeds,  
So many roads that wind and wind  
When just the art of being kind  
Is all this sad world needs."

Walter Hulme Sawyer was born in Lyme township, Huron County, Ohio, August 10, 1861, the son of George and Julia A. (Wood) Sawyer. His grandparents came from England and were early settlers in Ohio. His parents were prosperous farmers in Ohio until 1874, when they moved to Grass Lake, Michigan. He was educated in the public schools of Grass Lake and at the University of Michigan in both the arts and medicine. He graduated from medical school in 1884. He was house-surgeon at the University of Michigan Hospital 1884-1885. July

11, 1885, he located in Hillsdale for the practice of his profession.

On June 14, 1888, he was united in marriage with Miss Harriet B. Mitchell, daughter of Charles C. T. Mitchell and Harriet S. (Wing) Mitchell. To this union was born one son, Thomas Mitchell Sawyer, who, with two grandsons, survives. Members of his immediate family also surviving are one brother, Thomas J. Sawyer of Jackson, and two sisters, Nellie Sawyer Clark of Ann Arbor and Mrs. Edward Crafts of Grass Lake. Mrs. Sawyer died in November, 1929.

For many years Dr. Sawyer was surgeon for L. S. and M. S. R. R. at Hillsdale; president Oak Grove Hospital for Nervous Diseases, Flint, Michigan; Vice-president of Policy Holders' Service and Adjustment Co.; director Hillsday Scheen Co.; member Michigan State Board of Registration in Medicine 1898-1906; president Michigan State Medical Society 1913; member National Legislative Council A. M. A.; corresponding member Detroit Academy of Medicine; Member Tri-State Medical Society; fellow American College of Surgeons; Regent University of Michigan since 1905; trustee Hillsdale College; member Hillsdale School Board 35 years; LL.D. Hillsdale College, 1926; member Republican State Central Committee 1898-1904; member Staff Hillsdale City Hospital; contract surgeon for the U. S. Army during World War; Volunteer Medical Service Corps; State Committee National Defense; Episcopalian. His fraternal affiliations were as follows: Hillsdale Lodge No. 32 F. and A. M., Hillsdale Chapter No. 18 R.A.M., Eureka Commandery No. 3 K.T. Detroit Consistory, Hillsdaye Lodge No. 17 I.O.O.F., and Leighr A. Wright Post No. 53 American Legion. He was a member of the Detroit Club, the Prismatic Club of Detroit, Jackson City Club, The Michigan Union at Ann Arbor, Hillsdale Commercial Club, Hillsdale Country Club, member of Vestry St. Peter's Episcopal Church. He was in practice in Hillsdale since 1885.

We pause to consider his busy, useful life. The professional, political and social life of the state has suffered an irreparable loss. But we of his immediate community feel the loss with increased intensity.

We shall miss him in the affairs of the day, his kindness, his intelligent cooperation for things worth while, his sympathy.

It is with profound sorrow that the members of the Hillsdale County Medical Society bow to the inevitable.

D. N. FENTON,  
Secretary.

#### COMMENDABLE WORK

The following letter indicates how, by concerted effort, desirable activities may be instituted. It offers an objective for several of our county societies.

April 23, 1931.

Dear Dr. Warnshuis:

Answering your communication of April 21 relative to the work of our public health committee, I am pleased to advise you as follows at this time. We have inaugurated four projects. *One*, we have extended an invitation to both the Grand Rapids Herald and the Grand Rapids Press to send a reporter to all meetings of the Kent County Medical Society. In this connection we have also stated that when the meeting is a dinner meeting provision will be made for dinner for the reporter if he will let his presence be known. We have requested that the reporter covering our meetings interview the Chairman of the meeting before leaving in order

to avoid misstatement and wrong interpretation of anything that is said in the meeting. *Two*, we have arranged with the American Medical Association to furnish both of the above mentioned papers with the medical broadcast for the week in sufficient time for them to have them appear in the Sunday and Monday editions weekly. *Three*, through the courtesy of Mr. Frank Sparks, editor of the Grand Rapids Herald, we will publish in the magazine section of the Sunday edition, weekly, a public health article. These articles are to be written by members of our County Society and published under the authority of the Society by our committee. For the present these articles will be anonymous but the newspapers are very anxious that the author's names appear with the article. They explain this by the fact that the public is much more interested in reading anything if they know the writer. These articles are to be approximately one thousand words in length, written in popular language and dealing with some particular subject. The space required in the paper is the equivalent of one full column and is donated by the Grand Rapids Herald provided we agree to use as outlined. *Four*, several members of the Society have already agreed to cooperate in the matter of circularizing their own patients with pamphlets on public health. These pamphlets will be provided through the committee and will be of such size that they can be enclosed with statements on the first of the month. We expect to obtain these pamphlets from the biological and pharmaceutical houses without their names appearing on the same. All the cooperating doctors will be furnished with the same pamphlets at the same time.

This covers the work contemplated by our committee at the present time. Thanking you for your inquiry and hoping this may be of some value, I am

Very truly yours,  
E. B. ANDERSEN,  
Chairman Public Health Committee  
516 Medical Arts Bldg.

#### CIVIC AND INDUSTRIAL RELATIONS

The Civic and Industrial Relations Committee held a meeting at the Wayne County Medical Society club rooms, in Detroit, April 20. The following committee members were present: Doctors C. S. Gorsline, Battle Creek; Don F. Kudner, Jackson; E. P. Wilbur, Kalamazoo; E. I. Carr, Lansing; H. F. Dibble, Detroit; L. O. Geib, Detroit; Grover C. Pemberthy, Detroit; Harrison S. Collisi, Grand Rapids; J. Sundwall, Ann Arbor, (Chas. E. Planck, Reporter for Legislative Committee), H. W. Porter, Jackson; H. A. Luce, Detroit, and A. H. Whittaker, Detroit. The business session convened at 7:00 P. M.

##### 1. THE INSURANCE QUESTION

The Chairman reported events to date and read the resolution which had been sent to the Secretary of the American Medical Association through Doctor J. D. Brook, one of the Michigan delegates. It was pointed out that it was necessary for the Chairman to send in the resolution, prior to the committee meeting, in order to conform to the ruling of the American Medical Association, that all resolutions for the consideration of the House of Delegates be in the hands of the Secretary prior to April 15. Doctors Gorsline-Geib moved that the Chairman's action be approved by the Committee. Unanimously carried.

Correspondence was read from the Travelers Insurance Company, and reference was made to complaints of physicians that certain insurance companies were refusing to pay fees for filling out claim blanks. The question of publishing a list of insur-

ance companies, who were unwilling to pay fees to physicians, was discussed. It was not deemed advisable to compile such a list until after action had been taken by the American Medical Association. However, it was decided to urge physicians to adhere strictly to the meaning of the Michigan Resolutions and to continue refusing to fill out claim blanks unless advance payment of the fee was made by the insurance company.

Some of the committee members believed that wide-spread publicity should be given to other State Societies on the proposed resolution to be introduced to the House of Delegates of the American Medical Association. Doctors Kudner-Gorsline moved that the Civic and Industrial Relations Committee recommend to the Council of the Michigan State Medical Society that they request from the Secretary of the American Medical Association the privilege of sending to the secretaries and delegates of every State Medical Society a communication urging that prompt and definite action be taken on the insurance resolution at the meeting in Philadelphia, and to include also a printed copy of the insurance resolution. This motion was unanimously carried.

It was agreed that a communication of this sort should come from the Council of the Michigan State Medical Society rather than from the Civic and Industrial Relations Committee.

## 2. CIVIC RELATIONS COMMITTEES

Proposed organization of Civic Relations Committees in County Societies was next discussed. The Chairman related that a close relationship existed between the Legislative and Civic and Industrial Relations Committees, and that much could be accomplished by them working jointly in publicity work, involving civic and industrial questions. Doctor Sundwall, Chairman of the Legislative Committee, who was present, was called upon to explain in detail his version of this question. The subject was extensively discussed by all members present. Doctors Carr-Kudner moved that the Chairmen of the two committees be requested to formulate plans and suggestions for the organization of publicity and Public Relations Committees and to present their conclusions at a joint meeting of the Legislative and Civic and Industrial Relations Committees to be held in Lansing as soon as convenient. Unanimously carried. It was proposed to submit the recommendations of the combined committees to the Council of the State Society for final action.

Meeting adjourned at 10:15 P. M.

HARRISON S. COLLISI, M.D.,  
Chairman.

## COUNTY SOCIETIES

### GRAND TRAVERSE-LEELANAU COUNTY

The regular meeting of the Grand Traverse-Leelanau County Medical Society was held at the J. D. Munson Hospital, Traverse City, on March 3, 1931, President Kernkamp calling the meeting to order at 7:30 P. M.

The following members were present: Drs. Gauntlett, F. Holdsworth, M. J. Holdsworth, Inch, Kyselka, Minor, Sladek, Swartz, Thirlby, Way, Kernkamp, and Murphy.

The minutes of the February meeting were read and approved.

Four reels of motion pictures, "Traumatic Surgery of the Extremities," were then shown.

All other business was postponed to give Dr. A. H. Whittaker, Detroit, Secretary of the State Society Legislative Committee, the rest of the evening. He conducted an exhaustive round table discussion of all proposed legislation pertaining to our profession.

Motion, F. Holdsworth-Minor, that the Society approve of the proposed Amendment to the Medical Practice Act was carried.

Motion, Gauntlett-Minor, that the secretary write to each member of the society explaining the letter of February 9, 1931, relative to insurance company reports and charges for filling them out was carried.

The meeting adjourned.

E. F. SLADEK, Secretary.

The regular meeting of the Grand Traverse-Leelanau County Medical Society was held at the J. D. Munson Hospital, Traverse City, on April 7, 1931. Dr. Kernkamp in the chair.

The following members were present: Drs. Gauntlett, F. Holdsworth, M. J. Holdsworth, Holliday, Inch, Kyselka, Minor, Rinear, Sheets, Sladek, Swartz, Thirlby, Thompson, Brownson, Hastings, Kernkamp, and Evans as guest.

Minutes of the March meeting were read and approved.

A report from Miss Compton, school nurse, regarding the results of the Schick Clinic at the schools, was read. The report was very encouraging as to results of the giving of T.A.T.

A letter from Dennis Boyle, a lawyer in Detroit, was read, in which he warned the profession against certain provisions in the new medical practice act. Considerable discussion took place resulting in no change of our attitude towards the bill.

Dr. E. E. Evans, roentgenologist of the Munson Hospital, showed an elaborate series of X-ray films detailing progressive stages of tuberculosis of the lungs. Along with the films he talked about the physical signs and corresponding X-ray findings of various types of pulmonary tuberculosis, with a short résumé on prognosis and treatment.

A successful meeting was adjourned at a late hour.

E. F. SLADEK, Secretary.

### HILLSDALE COUNTY

The regular quarterly meeting of the Hillsdale County Medical Society convened at the Orange Lantern Tea Room, Hillsdale, at 6 o'clock P. M. for dinner.

After the dinner the society adjourned to the Mitchell Library where in the absence of both President and Vice President, Dr. Sawyer was nominated and elected President pro tem. He then introduced the speaker of the evening, Dr. Reed M. Nesbitt of the University of Michigan, who addressed the society on the subject of "The Significance of Pus in the Urine," in a most instructive manner.

He brought out the bearing of this symptom in the diagnosis and differentiation of a great number of diseased conditions ranging from simple cystitis to such grave diseases as tuberculosis and cancer of the kidney and a variety of ailments of every grade of suffering and danger. Of special value to the general practitioner of medicine was his classification of the groups of symptoms in which this condition is found, giving the average physician hints in diagnosis, enabling him to deal successfully with cases himself and to determine when to send these cases to medical centers that they may have the benefit of the most advanced and expert diagnosis and treatment.

The discussion was ably opened by Dr. Sawyer,

followed by a very full and exhaustive general discussion in which Dr. Nesbitt was asked a large number of questions which he answered.

After the close of the meeting, Dr. Nesbitt was very cordially thanked for his masterly address, it being conceded that this was one of the most instructive meetings the society has held for a long time.

The meeting then adjourned.

D. W. FENTON, *Secretary*.

### GRATIOT-ISABELLA-CLARE COUNTY

The April meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Wright House, Alma, Thursday, April 16. Seventeen members and nine visitors had dinner together.

President Harrigan called the meeting to order. Minutes of the previous meeting were read and approved. Communications were read from the State Secretary relative to insurance examinations and the new medical practice act now in the State Legislature. There was considerable discussion of these questions, but no action was taken.

President Harrigan then introduced Doctor F. B. Tibbals, of Detroit, who discussed "Medical Defense," relating the details of the beginning of medical defense by the State Society.

The doctor gave us many valuable pointers on this subject and also answered many questions.

On behalf of the Society President Harrigan thanked Doctor Tibbals for his interesting address.

E. M. HIGHFIELD, M.D., *Secretary*.

### JACKSON COUNTY

The April meeting of the Jackson County Medical Society was called to order by Dr. Ferdinand Cox, President, in the Memorial Room of the Elks Temple on Tuesday evening, April 21, after a six o'clock dinner. Because of the interest in tuberculosis, Dr. Clarke moved that a committee be appointed to select a group of children to be given the Mantoux test and to follow these cases up. Motion seconded by Dr. Town. Motion carried. Dr. Cox then appointed on the committee Dr. Frank VanSchoick, Dr. Hanna and Dr. Bullen.

Dr. George Pray, the representative of the Medical Society on the Better Business Bureau of the Chamber of Commerce, reported that the Chamber is intending to run two advertisements of medical nature in the local papers after they have been approved. Dr. McLaughlin reported on the progress of legislation of interest to medicine. Dr. John Smith stated that the County Board of Supervisors were now willing to send all county indigent cases to the local hospitals instead of to the University Hospital at Ann Arbor. The fee schedules for both the hospital charges and for medical services have been agreed upon. As the hospital fees are the same at both hospitals, the patient may be allowed to choose which hospital he wishes to enter. Dr. Riley moved that a copy of the fee schedule for the care of county indigent cases be sent to each member. Motion carried.

Dr. E. C. Taylor, who has spent the last three years in Florida and who has recently returned to Jackson to practice, was welcomed back on behalf of the Society by Dr. O'Meara. Dr. Taylor responded and promised the Society a party in the not distant future.

The President of the Helmer School Parent-Teacher Association called and asked if the doctors were intending to examine the pre-school children

at their offices free of charge again this year as was done last year. This brought forth considerable discussion. Dr. Crowley moved that the work not be done free this year. Motion carried. Dr. Bullen then asked if the Society thought that this work should be done by the school physician. Dr. Smith moved that this subject be turned over to the Health Education Committee, who should report to the Society at the next meeting. Motion carried.

Dr. Porter moved, and Dr. Culver seconded the motion, that the Society purchase a copy of the Medical History of Michigan, to be kept at the Secretary's office for the use of the members. Motion carried. Dr. Kudner announced a meeting of Industrial Surgeons to be held in Detroit April 24-25. Everybody interested is invited. Dr. George Pray presented the application of Dr. Normal Wilson for membership in the Society. This was turned over to the Membership Committee. The meeting was then turned over to Dr. Thayer, Program Chairman, who introduced Dr. Raphael Isaacs, Assistant Director of the Simpson Memorial Institute in Ann Arbor. Dr. Isaacs spoke on the "Diagnosis and Treatment of Anemia," and made the subject very interesting as well as amusing. Everyone enjoyed the talk. Attendance, 55.

### KALAMAZOO ACADEMY

A regular meeting of the Kalamazoo Academy of Medicine was held April 21, 1931, in the Academy rooms and was called to order by Dr. Sherman Gregg.

The report of the Board of Censors investigating the quality of the publications to be issued in the local newspaper was read by Dr. Gregg and is as follows:

#### REPORT OF COMMITTEE

Report of the Committee of Members of the Kalamazoo Academy of Medicine delegated to review the proposed articles to appear in the Gazette on education.

#### RESOLVED THAT:

(1) This committee is of the opinion that the members of the Academy can edit a series of educational articles that will fulfill the requirements of the Academy and the community better than those presented by the Gazette, which we have read, and disapprove of.

(2) It is our suggestion that the Academy undertake at the present time to edit and publish a series of articles to replace to a large measure those presented to the Academy by the Gazette.

(3) We recommend that a committee be appointed at once, to prepare or secure such a series of articles and that they be sent the Gazette to take the place of the copyrighted series of articles previously presented.

Signed,

Alton E. Pullon,  
Committee.

Dr. Boys and Dr. R. F. Snyder moved that the report be accepted and that the committee continue to function and obtain suitable articles to be published. Discussion by Drs. Crane, Morter and Aach.

Dr. Crane and Dr. Gerstner moved that the report of the committee be laid on the table. Carried.

Communications were read.

Dr. Crum reported that the National Chamber of Commerce is instigating an Inter-City health contest. The local Chamber of Commerce is willing to enter the contest if they could be assured of the aid and sponsorship of the Academy. Dr. MacGregor and Dr. Crum moved that a committee be appointed to work with the Chamber of Commerce to determine the advisability as to whether the city should

enter the contest. Carried. Dr. Gregg appointed a committee composed of Drs. MacGregor, Crum and Crawford.

Dr. Boys called the attention of the Academy to the fact that the Kalamazoo District Nurses' Association must rent a hall to hold their meetings and that, inasmuch as they are an associate body of the Academy, he and Dr. Wescott moved that the Board of Directors extend to the nurses of this district an invitation to hold their meetings in the Academy rooms. Discussion by Drs. Crane, Boys and Shepard revealed that the motion was out of order as such action might jeopardize the Academy's ownership of the rooms.

Dr. F. T. Andrews recalled that the delegates to the State Convention last year were instructed to put in a bid for the 1931 State Meeting, but were defeated. He stated that if the 1932 State Meeting is desired a notice of such intention should be filed at least sixty days before the Annual Meeting in Pontiac in September. Drs. MacGregor and Crawford moved that Dr. Andrews be instructed to put in a bid for the State Meeting in 1932. Carried.

Dr. Jackson read the report of the committee for the Resolutions on the death of Dr. Harriet Stone. He and Dr. Berry moved that a copy of the resolutions be spread on the minutes of the meeting and a copy be sent to the family. Carried.

### MANISTEE COUNTY

The Manistee County Medical Society were hosts to the doctors of this section of Michigan on May 13, at which time a live Post Graduate Conference was furnished us by the State Society.

Dr. Fredrick A. Collier of Ann Arbor gave a lecture on "Appendicitis" that pleased all with its clarity, brevity, and practicality and followed with a talk on "Newer Anesthesia" that gave us all something to mull over in our minds, especially as regards the developments of the so-called postoperative pneumonias, demonstrating very nicely that a certain percentage of their cases were atelectases.

The State Secretary, Dr. Warnshuis, gave a rapid and interesting résumé of the Medical Practice Act and informed us of what the State Board of Registration is doing.

Doctor Collier's associate, Doctor Maddox, of the Ann Arbor staff, gave a demonstration of the treatment of varicose veins that was interesting, instructive and worth while.

The demonstration of immunization methods by Dr. C. C. Young, of Lansing, was timely and much appreciated, as Doctor Young's talks always are.

The meeting was concluded by Dr. J. W. Kemper, who talked on "Fractures of the Jaw and Maxilla," and was well received.

E. C. OAKES,  
Secretary.

### MECOSTA COUNTY

The regular meeting of the Mecosta County Medical Society was held Tuesday, April 14, at the Western Hotel, Big Rapids, Michigan.

Present: Drs. MacIntyre, Burkart, Yeo, Treynor, Grieve, Campbell, Peck, Franklin, Kelsey, Bunce, Holm, Clark, Stibal, Chess, Gillett, and Kilmer.

At 6:45 p. m. seventeen members and two guests, Dr. E. R. Van der Slice and Dr. Holm, Jr., sat down to an excellent dinner provided by Drs. MacIntyre and Treynor, our hosts. Later in the evening, Dr. Ricker of Cadillac came in. At 7:45 p. m. President MacIntyre called the meeting to order. Minutes of the last regular meeting were read and approved.

Communications included a card of thanks from Dr. Burkart and family in Pittsburgh, Pa., for beautiful flowers sent; invitation from Kent County Medical Society to attend meeting of April 17, when Dr. Joseph Colt Bloodgood would be speaker of the evening; letter from State Commissioner of Health, Dr. C. C. Slemons of Lansing, calling attention to the low maternal mortality rate in Michigan during 1930 and the high rate in Mecosta and Osceola counties; the former being 9.0 or 52.5 per cent higher than the State rate. The latter, Osceola, showing 12.0 or 103.5 per cent higher than the State rate.

Communications received were placed on file. Dr. Treynor, moved, supported by Dr. Grieve, that a committee be appointed to draft resolution of condolence on the death of Mrs. J. L. Burkart, on March 20, at her home in Pittsburgh; copy to be mailed to members of the family and spread upon the minutes of the meeting.

President MacIntyre advised the Society that several of the county societies were admitting regularly, qualified dentists to associate membership in the societies. The matter was discussed by Drs. Kelsey, Treynor, Bunce and others, and at the close of the discussion Drs. Kelsey and Bunce moved that the dentists of Mecosta and Osceola Counties be admitted to associate membership in our Society on payment of membership fee of \$5.00 per annum.

Dr. Campbell asked for an opinion on the advisability of merging the counties of Mecosta, Osceola, Newago, and Lake in a County Health Unit under the Couzen's plan. An active discussion was participated in by nearly all the members present, and Dr. Ricker of Cadillac revealed opposition to the plan. Dr. James B. Campbell was authorized to present our views to the Board of Supervisors of Mecosta County now in session. This was done, and the Board of Supervisors opposed the project of merging with the counties named.

The meeting was then turned over to the Program Committee. Dr. Yeo, chairman, said that due to an automobile accident, Dr. C. C. Young, Director of the Laboratory of the State Department of Health, could not be present, but Dr. E. R. Van der Slice of Lansing would speak on "Methods of Diagnosis in Tuberculosis of Ten Years Ago and Now." Dr. Van der Slice then read a paper which he had previously written on this subject seven years ago, and drew comparisons by giving the present view on the subject. X-ray pictures were exhibited and interpretations given by the speaker. Discussion of the subject brought out much that was of interest on the value of "flat plates."

On motion of Dr. Franklin, supported by Dr. Kelsey, a rising vote of thanks was given the speaker of the evening and our hosts, Drs. MacIntyre and Treynor. The President announced that a clinic would be held at Manistee, Michigan, on the second Thursday in May, to which all were invited.

No further business being presented, the meeting adjourned.

JNO. L. BURKART, Secretary.

### WAYNE COUNTY

The doctor-lawyer meeting of May 5 between members of the Wayne County Medical Society and the Detroit Bar Association was a big success. Six hundred representatives of the two professions met in the Society's auditorium to hear Mr. Henry C. Walters, Dr. L. J. Hirschman and Dr. Wm. J. Stapleton, Jr., discuss ways and means how these two leading professions can better serve the public. The meeting resulted in a Resolution, introduced by Mr. Walters, recommending the appointment of a joint

committee, five from each profession, to work in the interests of closer coöperation for public benefit. It is planned to hold a joint meeting of these two groups every year.

The American Medical Golfing Association will hold its Seventeenth Annual Tournament over the Aronimink Country Club course at Philadelphia, June 8. The announcement has been sent to all active members from the Executive Office, 1124 Maccabee Bldg., Detroit. Three hundred doctors are expected to tee off and compete for the thirty prizes in the seven events. It is rumored that a Michigan man is slated to be the next president of the Golfing Association.

The Cafe of the Wayne County Medical Society served 2,148 luncheons during the month of April, 1931. The total income from all sources amounted to \$1,250.25. The roof garden, a colorful spot on the eleventh floor of the Maccabees building, replete with rock gardens and blooming gardens, was formally opened to the membership for the summer season on May 28. Out-of-town physicians are cordially invited to take luncheon on the Wayne County Medical Society Roof when they are visiting in Detroit.

Information on the so-called "American Society for the Conservation of Vision," 1710 Book Tower, Detroit, may be procured by members of the Michigan State Medical Society who write the Executive Office of the Wayne County Medical Society, 1124 Maccabees Bldg., Detroit.

The Medical Science of the Detroit Public Library is in need of an extra copy of Volume 29 (1930) of the Journal of the Michigan State Medical Society. Any member having an extra copy of this volume will help the Medical Library by advising Miss Marjorie J. Darrach, 629 Mullet St., Detroit.

A résumé of the new Automobile Financial Responsibility Laws, which are in operation in thirteen states and two Canadian provinces, was printed in the May 5 Bulletin of the Wayne County Medical Society. Any member of the State Society desiring a copy of this issue may procure same by writing the Executive Office.

The Detroit Board of Commerce Cruise of four days is set for June 18 to 22. Dr. A. H. Whittaker of Detroit is the Cruise Physician. It is anticipated that a score of members of the Wayne County Medical Society will take this Cruise and meet the business leaders of Detroit.

Mail passing over the desks of the Executive Office of the Wayne County Medical Society during April amounted to 4,347 pieces, or 167 per day for 26 working days. This compared with other months as follows: January, 2,308, or 88 per day; February, 3,324 pieces, or 138 per day; March, 5,139 pieces, or 197 per day.

The election of the Wayne County Medical Society on May 19 resulted in the following: For president-elect, Dr. H. Wellington Yates; for secretary, Dr. E. D. Spalding; and for trustee, Dr. J. M. Robb. The Noon Day Study Club, composed of physicians and surgeons under the age of forty, entertained the new officers at its annual banquet, May 20, in the club rooms of the Society.

Dr. Burt R. Shurly, a member of the Wayne County Medical Society, is running for Congress to represent the Fourteenth District of Michigan.

Have you any books (not medical) such as novels, histories, dictionaries, etc., for which you have no further use? If so, send them to the Chaplain at the Michigan State Prison as the books that are now in the Library are old and in poor condition. Send them by express and the charges will be paid by the authorities at Jackson. Address Dr. Richard

W. McLain, Chaplain, Michigan State Prison, Jackson, Michigan.

Dr. Howard W. Haggard's talks over the Columbia Broadcasting System every Sunday at 8:00 P. M. are well worthy of your attention. In fact, you should advise your patients to hear these talks which are very entertaining and show the benefits which have resulted to the world from medicine and medical men.

Harry M. Hoxsey, formerly connected with Norman Baker of Muscatine, Iowa, who recently headed an alleged cancer clinic in Detroit, was convicted of practicing medicine without a license by a Detroit jury on May 8th. Hoxsey was released by Judge Skillman under a \$2,000 bond and sentence was deferred one week to permit preparation of a report by the Court Probation Department. The "medical director" of the so-called clinic, Dr. Homer Van Hynning, recently had his license revoked by the State Board of Registration in Medicine, although he is practicing under a stay of revocation granted by the State Supreme Court, pending an appeal.

The report of the Bureau of Investigation of the American Medical Association on the Spectro-Chrome Institute and Col. Dinshah P. Ghadiali, "M.E., M.E., D.C., Ph.D., LL.D., etc.," is available. Write the Wayne County Medical Society for a copy.

Newly elected officers who will head the Medical and Surgical Sections of the Wayne County Medical Society during the year beginning July 1 are as follows: Medical Section: Dr. D. P. Foster, chairman, and Dr. C. D. Moll, secretary; Surgical Section: Dr. C. S. Kennedy, chairman, and Dr. N. K. H'Amada, secretary.

#### WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, President, Jackson, Mich.  
MRS. W. L. FINTON, Secretary, Jackson, Mich.

Our newly appointed Organization Chairman, Mrs. F. T. Andrews, 2325 Crane Ave., Kalamazoo, has been very active, having visited a number of counties, some of which she hopes to organize this spring. If you can assist her in any way, or need aid in organizing a new society, she will be pleased to hear from you. The State treasurer reports that dues have been received from eight counties and our State paid membership gives us four delegates to the National Convention to be held in Philadelphia June 8-12. We expect to be well represented at that time and know that our delegates will bring back to us, both in their own meetings and to our Convention, the inspiration received from such a meeting. Do not fail to notify the treasurer of your newly elected officers with addresses.

Mrs. Urmston urges upon you the necessity of sending reports to her, of your Auxiliary activities, as she is helpless without material for our page in the Journal which has been so generously given to us.

Yours respectfully,  
Mrs. P. R. URMSTON,  
Publicity Chairman.

*Do not forget the date of the American Medical Association which meets this year in Philadelphia. The dates are June 8 to 12, inclusive.*

## THE DOCTOR'S LIBRARY

**THE SURGICAL CLINICS OF NORTH AMERICA.** (Issued serially, one number every other month.) Volume 11, No. 1. (Chicago Number—February, 1931.) 225 pages with 72 illustrations. Per clinic year (February, 1931, to December, 1931): paper, \$12.00; cloth, \$16.00. Philadelphia and London: W. B. Saunders Company, 1931.

**THE MEDICAL CLINICS OF NORTH AMERICA.** (Issued serially, one number every other month.) Volume 14, Number 5. (Chicago Number—March, 1931.) Octavo of 255 pages with 21 illustrations. Per clinic year (July, 1930, to May, 1931): paper, \$12.00; cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1931.

**A TEXTBOOK OF LABORATORY DIAGNOSIS WITH CLINICAL APPLICATIONS FOR PRACTITIONERS AND STUDENTS.** By E. E. Osgood, M.A., M.D., Assistant Professor of Medicine and Biochemistry, Director of Laboratories, University of Oregon School of Medicine, Portland, Oregon, and Howard D. Haskins, M.D., Professor of Biochemistry, University of Oregon School of Medicine. Twenty-one figures in the text, and six colored plates; 475 pages. P. Blakiston's Son & Co., Inc., Philadelphia, 1931. Price, \$5.00.

This is a convenient book for the medical practitioner. Two-thirds of the work is devoted to the significance of laboratory methods in the diagnosis of disease. The normal conditions, the pathological deviations and their significance are briefly but adequately treated. The material is organized in eight sections: diseases of the urinary tract, disturbances of carbohydrate, protein and fat metabolism, pregnancy and its complications, disorders of the central nervous system, disorders of the gastro-intestinal tract, disorders of the ductless glands, hematology, and disorders of the respiratory and cardiovascular mechanism. The latter third of the work concerns the technical methods themselves. A special index classifies the tests and discussion according to particular diseases.

**THE PHYSICAL BASIS OF PERSONALITY.** By Charles S. Stockard, Professor of Anatomy and Director of the Anatomical Laboratories and the Experimental Morphology Farm in the Cornell University Medical School. Seventy-three illustrations, 320 pages. W. W. Norton & Co., Inc., New York, 1931. Price, \$3.50.

In this work, one of the most versatile of American anatomists has tried "to make clear the physical factors underlying the origin of personality, and from this origin to carry the individual through the process of development producing finally the finished person." The title may at first appear misleading but as a survey of the present day biological concept of the individual—the real basis of an understanding of personality—the work is excellent. A wealth of material, mostly very recent, is covered, such as: the individual and his environment, the constitution of the germ cell, twins, experiments on embryos and their relation to personality, endocrine glands, and developmental changes in personality. A considerable portion of the book is devoted to some recent experiments by Stockard. He has recognized that the pure breeds of dogs show close anatomical and functional resemblances to certain human freaks, the bulldog to achondroplastic dwarfs, the St. Bernard and Dane to acromegalic or gigantic individuals and the black and tan to midgits. Each of these dogs presents a constitution and personality which is exaggerated in some way in contrast to other dogs. By interbreeding one pure stock of dog with another and observing the various types of crosses a serious attempt is made to study the mechanism behind these differences. Personality is

finally being subjected to analytical treatment. These results are presented here for the first time.

This readable and well organized account with its wide contacts with modern biological research should appeal to anyone interested in human individuality. It will be remembered that Dr. Stockard delivered the series of Beaumont lectures under the auspices of the Wayne County Medical Society in 1927.

**DISCOVERING OURSELVES, A VIEW OF THE HUMAN MIND AND HOW IT WORKS.** By Edward A. Strecker, A.M., M.D., and Kenneth E. Appel, Ph.D., M.D. New York. The Macmillan Company, 1931. Price \$3.00.

From the reviewer's viewpoint this is a very interesting work on mental hygiene. In medicine many of the best writers are neurologists or psychiatrists. The authors of this book bear out this contention. Both write well and are never at a loss for an apt illustration. The title is a popular one and the treatment of the subject is accordingly non-technical. While written for the intelligent layman, there is much information for the physician who is not a specialist in neurology or psychiatry. The physician will find in it a viewpoint that he has used less frequently than he should in his practice.

**SIR D'ARCY POWER.** Selected Writings 1877-1930. Oxford, the Clarendon Press, Oxford and New York.

This volume of the selected writings of the author was presented to him by his friends on the occasion of his seventy-fifth birthday on November 11, 1930. There are sixteen chapters in which the titles are sufficiently varied to suit any medical reader's taste. A few of these titles are John Hunter: a martyr to science; English Medicine and Surgery in the fourteenth century; The Fees of our Ancestors; Dr. William Harvey and St. Bartholomew's Hospital; A Revised Chapter in the Life of Dr. William Harvey; Why Samuel Pepys Discontinued His Diary; How the Tradition of British Surgery Came to America; On Cancer of the Tongue. The work is illustrated by sixteen plates for the most part reproductions of historic pictures and nine figures in the text. Sir D'Arcy Power is known to American readers by his work on William Harvey and very recently by a small volume entitled *Medicine in the British Isles in the Clio Medicine series*, Paul B. Hoeber, New York. A surgeon, Sir D'Arcy Power is a brilliant and interesting writer upon Historic Medicine and biographical subjects. The present collection of essays is scholarly. It is one of those volumes that should have a place in the library of those physicians and surgeons who prize the cultural contributions to the story of medicine.

**THE PHYSICIAN OF THE DANCE OF DEATH.** An Historical Study of the Evolution of the Dance of Death Mythus in Art. By Aldred Scott Warthin, Ph.D., M.D., LL.D., Professor of Pathology and Director of the Pathological Laboratories in the University of Michigan. With 92 illustrations. Price, \$7.50. Paul B. Hoeber, Inc., New York, 1931.

This work is limited to one thousand numbered copies. The first one hundred are signed by the author and are specially bound. It is an artistic volume, one that does full justice to the publisher's long standing reputation for producing books that delight the eye of the art lover. The author relates how his interest in the subject first arose from viewing Dürer's "Ritter, Tod und Teufel," a copy of which he has treasured since his student days. A reproduction of this picture is the frontispiece of the work. An interest in death, the author maintains, is not of necessity a morbid one; it may be either scientific or philosophic. Dr. Warthin's study of man's changing reactions to the concept of death has included a period of six centuries. The work

began with the late fourteenth century, in the cloister of the churchyard of a monastery in the valley of the upper part of the Rhine. The concept is elaborated through different countries, as well as traced through different periods of history to the modern Dance of Death. The last eight pages include a complete bibliography of the subject.

**PRACTICAL CLINICAL PSYCHIATRY FOR STUDENTS AND PRACTITIONERS.** By Edward A. Strecker, A.M., M.D., Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia, Pa., and Franklin G. Ebaugh, A.B., M.D., Professor of Psychiatry, University of Colorado Medical School. Third Edition, enlarged and revised, with 47 illustrations in the text. P. Blakiston's Son and Co., Inc., 1012 Walnut Street, Philadelphia, Pa. Price, \$4.00.

This work has grown from 375 pages in its first year of publication, 1925, to 553 pages in this third edition. The present edition has been enhanced by a chapter on Practical Aspects of Child Guidance Problems. Many diseases which in the beginning are strictly in the domain of internal medicine have been found to present problems for the psychiatrist and on the other hand psychiatric problems become those which are peculiarly the field of the internist. The authors have recognized this in the preparation of this work. Their aim has been to bring about the psychiatric viewpoint which develops the ability to treat not only physical symptoms but also the whims, peculiarities, personality and mind. In other words, an account is taken not only of physical conditions but of those which may be classified as mental as well. The case method of presentation has been adopted. The work is well written and well illustrated. Each chapter contains selected references for the reader who might wish to make further study than is embraced in the particular chapter under consideration.

#### PEPTIC AND DUODENAL ULCER IN TABES DORSALIS

EDWARD LIVINGSTON HUNT and JAMES R. LISA, New York (*Journal A. M. A.*, Jan. 10, 1931), report four cases. In each instance the patient had been under observation, the clinical diagnosis had been agreed on, and the autopsy had been made. The essential points in these cases were: The presence of a nonsyphilitic ulcer in a syphilitic patient; the fact that the terminal stage of the disease was due to the ulcer and not to the tabes; the failure to diagnose the ulcer before death; the fact that the diagnosis was overlooked because of the similarity of the symptoms; the fact that in one case there were bloody stools, and proof from the autopsy that the patient had tabes.

#### COMPARATIVE BIOLOGIC AND HISTOLOGIC STUDY OF LYMPH GLANDS FROM SYPHILITIC PATIENTS

The inguinal lymph glands from twenty-one syphilitic patients were removed and studied histologically and biologically by ELI SALEEBY and SIGMUND S. GREENBAUM, Philadelphia (*Journal A. M. A.*, Jan. 10, 1931). In five cases they were able to find *Spirochaeta pallida* in the sections, while in others only dark stained granules were observed. In the animals, thirteen became positive after the first transplant and three after the second transplant. The organs from nine of the positive rabbits were studied histologically for spirochetes. The tests were positive in all the cases, the lymph glands in five and the heart and aorta in two. Dark stained granules were present in most of the lymph glands, and in the heart and aorta in one. These granules were mainly in the lymphocytes. The results of this study tend to compare the histologic

and biologic methods with the clinical and laboratory diagnosis. They suggest the possible occurrence of a granular form of *Spirochaeta pallida* or some other species which cannot be definitely identified with our present diagnostic methods and present knowledge of the life cycle of this organism. Also they tend to show that the failure to find the organism in the remote tissues is partly due to the fact that after leaving the original focus of infection the majority of them are broken up into granules, probably by phagocytic cells, before going into the circulation. This is probably accomplished by the lymphocytes, as evidenced by the accumulation of the previously described granules in the lymphocytic cells of the lymph glands.

#### PRESENT-DAY MANAGEMENT OF STONE IN KIDNEY

CHARLES PIERRE MATHÉ, San Francisco, states that the modern management of kidney stone includes many prophylactic measures; viz., early nephrectomy for destructive calculus pyonephrosis which might act as a focus for stone formation in its healthy fellow, the clearing up of foci in other parts of the body, the elimination of predisposing lesions consisting of stasis in the upper and lower urinary tract, the eradication of renal infection, and the correction of faulty metabolism with a diet based on a chemical analysis of the recovered stone. Obstructive stones cause backpressure, resulting in certain pathologic lesions; viz., hydronephrosis, suppurative nephritis, abscess formation, perinephric abscess and spontaneous rupture of the kidney. Nonobstructive stones are a source of continual irritation to the kidney, lowering its resistance and making it more susceptible to tumor formation and to infection. Early removal of nonobstructive stones as well as the obstructive type conserves renal tissue and lengthens life. The so-called nonsurgical, coral-shaped, silent, nonobstructing stone, in which fragments break off, pass into the pelvis and ureter, threatening obstruction, should be removed at once. Recurrence of stone occurred in 20 per cent of seventy-four cases treated. As all predisposing lesions such as stasis, renal infection and foci of infection elsewhere were systematically corrected, it might be deduced that recurrence was due to faulty metabolism or to the leaving of fragments at the time of operation. Recurrence after operation (19.7 per cent) can be further reduced by the employment of X-rays at the time of the intervention and by the intelligent selection of the proper type of operation based on the position and character of the stone. Nephropyelotomy assures a more thorough removal of branched pelvic stones and stones in the calices.—*Journal A. M. A.*

#### WHAT IF THE ANTIVISECTOR HAD HIS WAY?

Dr. L. R. Thompson of the U. S. Public Health Service, Washington, told members of the House Appropriations Committee that approximately \$17,278.00 will be needed for purchasing laboratory animals for the National Institute of Health in 1931. Wild rabbits cannot be used, he told the committee, because they are apt to have many different intestinal parasites, as well as tularemia (rabbit disease): Guinea pigs for laboratory purposes cost around \$.90 apiece; rabbits, \$1.35; white mice, \$.17; monkeys, \$16.00; chickens, \$1.85; pigeons, \$.35; white rats, \$.50; frogs, \$.11; and cats, fifty cents apiece. The establishment of an animal farm where the U. S. Public Health Service can raise and breed its own animals for study was suggested as a wise move by the House Committee on Appropriations.—*Science Service.*